AMERICAN GAS JOURNAL

APRIL 1941

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An Invitation...

During the Distribution Conference in Pittsburgh, April 21 to 23, we will be holding open house at our factories in the eastern section of the city. Avail yourself of the opportunity to see how meters, regulators and accessory apparatus are developed, made and tested to EMCO quality standards. Any representative of the company will be glad to make arrangements for such a trip at your convenience.

Mr. Distribution Man:

"We talk your language"

Here at Pittsburgh Equitable we understand gas engineering lingo—even to the cuss words.

We support a meter fellowship at the Mellon Institute that sends us some mighty useful experimental results. And our own factory laboratories and test groups are on the job every day.

When it comes to meter and regulator performance, there have been millions of EMCO Meters and Regulators put in service over our 50 year manufacturing span. They provide us with the hard realities of practical experience.

And so we welcome every chance to consult on measurement and control problems, to put this background and experience to work, to help in planning new distribution systems or ironing out kinks. As a matter of fact, we have often been able to find the right answer in both types of consultation.

We like to think we talk your language. We'd welcome the opportunity to put our resources to work for you.

PITTSBURGH EQUITABLE METER COMPANY
MERCO NORDSTROM VALVE CO.
NEW YORK · BUFFALO · PHILADELPHIA · KANSAS CITY · TULSA · LOS ANGELES
Main Offices - PITTSBURGH, PA.
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EMCO METERS and REGULATORS

Skilled Labor Not Needed

Now – when National Defense has a prior call on skilled labor – the ease and speed with which untrained men can install mechanical joint cast iron pipe is an important advantage. The bottle-tight, stuffing-box type mechanical joint is based on a time-tried principle. The pipe material – cast iron – has a service record equalling the life of the Gas Industry itself.

Look for the "Q-check" registered trade mark. Cast joint pipe is made in diameters from 4 in. to 24 inches.

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CAST IRON PIPE

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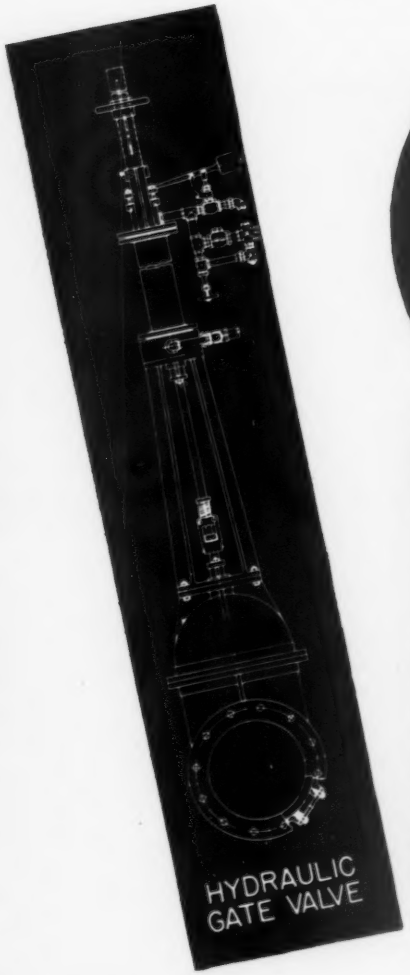
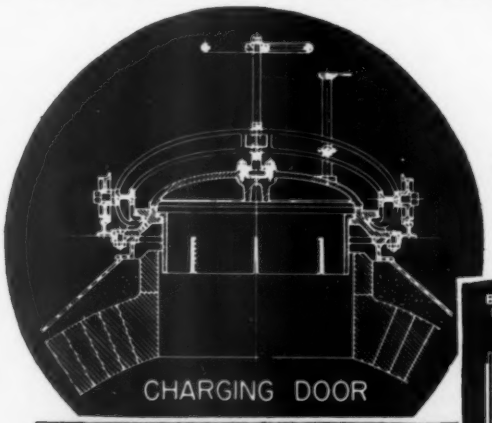
NEED EXTRA CAPACITY?

SPEED UP

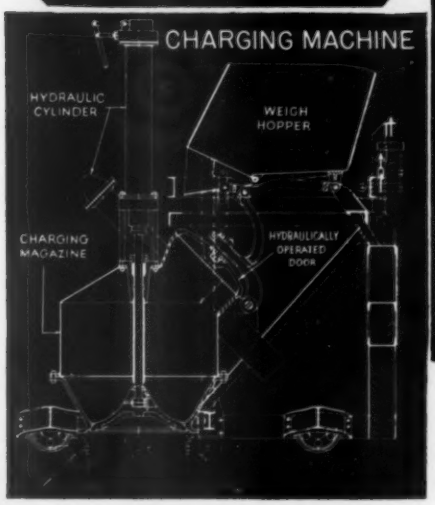
WITH THESE MODERN, EFFICIENT SEMET-SOLVAY PARTS



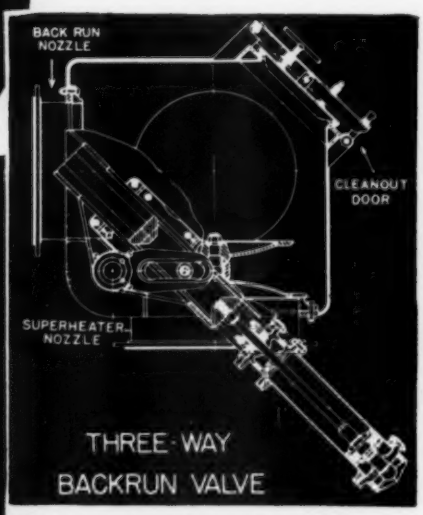
Hydraulic Gate Valve, with automatic stop, permitting opening to any desired degree. Creeper control governs rate of opening.



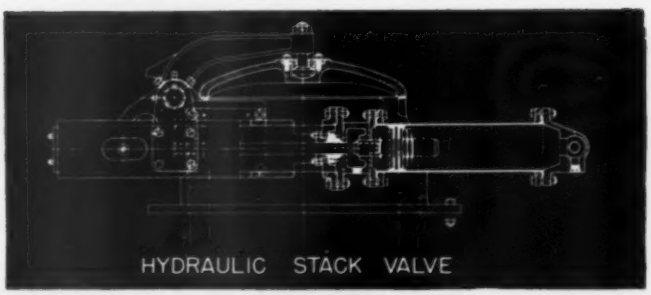
Charging Door. Rolling type allowing unhampered work around charging hole.



Charging Machine. Automatically controlled throughout. Distributes fuel evenly. Built in weigh scale. Cushioned seating for charging door.



3-Way Backrun Valves. Very fast in action. Interior easily accessible. Spray system for reducing carbon and tar accumulation when running on heavy oil.



Hydraulic Stack Valve. Quick acting. Cushioned Seating held tight by hydraulic pressure. Easily accessible for maintenance.

SEMET-SOLVAY ENGINEERING CORPORATION

40 Rector Street **New York, N. Y.**

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U.G.I.-HAUG HIGH DUTY CONDENSER

ADEQUATE condensing is an indispensable part of proper gas conditioning and provides an important step in the prevention of liquid phase gum troubles.

U. G. I.-HAUG HIGH DUTY CONDENSERS embodies advanced principles of heat transfer as applied to the cooling of gas and offers the following advantages; ■ High rate of heat transfer— ■ Fresh or salt water cooling design available— ■ Designed to meet your specific needs— ■ Gas cooled to temperature close to temperature of water— ■ Removal of liquid phase gum formers consistent with cooling water temperatures.

U. G. I.-HAUG HIGH DUTY CONDENSERS now on order will have a total capacity to cool over 75,000,000 cubic feet of carburetted water gas per day.

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UNITED SERVICES PROVIDE

EXPERIENCE IN DESIGN
United has over 50 years experience in gas plant design.

EFFICIENT APPARATUS
United has pioneered major developments in water and coal gas production.

ECONOMICAL CONSTRUCTION
United has large well organized forces for gas plant and general construction work.

EXPERIENCE IN OPERATION
United has experienced plant operators for securing most efficient results.

*U. G. I. SALT WATER CONDENSER, CAPACITY 6,000,000 CU. FT. PER DAY

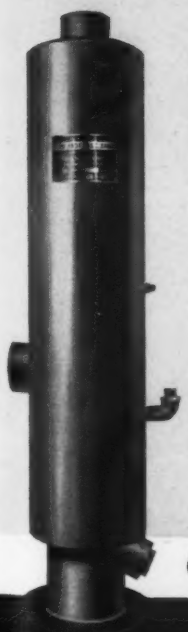
UNITED ENGINEERS & CONSTRUCTORS INC

NEW YORK PHILADELPHIA CHICAGO

"I WANT THE KIND THAT USES *Gas!*"

FOR any purpose where gas can be used she wants the appliance that uses gas. Was she influenced in her opinion by "bridge table gossip?" Ten to one she was and you want to protect and increase that goodwill. Give her CLEAN...DRY...CONDITIONED GAS delivered thru...

NEW LOW-COST BLAW-KNOX "K" SERIES GAS CLEANERS



...your best insurance against service complaints due to dust, rust, scale or liquid condensates.

Available from stock in 2 sizes and 3 weights for service up to 800# pressure. Inexpensive and easy to install, they provide a final cleaning of the gas just before it is sold. Ideal for district regulator stations, town border stations or in front of a good customer's meter. The coupon suggests other uses.

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Insure the delivery of clean, dry gas to your customers. Mail the coupon and we'll send you full information regarding type of unit required, cost and method of installation.

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BLAW-KNOX DIVISION of Blaw-Knox Co.
Farmers Bank Building Pittsburgh, Pa.

BLAW-KNOX, Pittsburgh, Pa.

Gentlemen:

Without obligation I would like to have more information on your "K" series Gas Conditioning Equipment. My conditions are as follows:

☐ District Regulating Station Max. Gas Volume MCF hour_____ Min. Pressure_____ Max. Pressure_____
☐ Small City Gate Station Max. Gas Volume MCF hour_____ Min. Pressure_____ Max. Pressure_____
☐ Town Border Station Max. Gas Volume MCF hour_____ Min. Pressure_____ Max. Pressure_____
☐ Industrial Take-off Max. Gas Volume MCF hour_____ Min. Pressure_____ Max. Pressure_____

Principal material to be removed . . . Dust ☐ Rust ☐ Sand ☐ Scale ☐ Liquid Condensate ☐

Name_____ Title_____

Company_____

Address_____

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A COMPLETE LINE . . . BALANCED FOR SALES—AND BALANCED FOR PROFIT!
Each range in the 1941 Universal line fits into a logical price bracket. The line covers every important price classification into which the majority of sales logically fall . . . From the standpoint of Advanced Devices—Prices—and Styling, the Universal Line for '41 is truly balanced for sales—balanced for profit.
A COORDINATED SALES AND ADVERTISING CAMPAIGN WHICH TELLS AND SELLS THE STORY OF GAS AND THE MODERN UNIVERSAL
— And, Universal is backed by a comprehensive Advertising and Sales Promotion Program designed to help you make your prospects "Gas Range Conscious."
Built around pertinent selling *facts* in the new 80 page Universal Sales Manual, this program embodies hard-hitting follow-up pieces for every sales contact PLUS complete campaigns which will find prospects for you . . . Newspaper Ads—Sales Campaign—Direct Mail Campaign—Cooking School Campaign—Salesmen's Educational Campaign and many others comprise a program designed to help build your gas range volume to a new high.
Universal Gas Ranges
Manufactured By CRIBBEN AND SEXTON CO. 700 N. SACRAMENTO BLVD. • CHICAGO

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CONTENTS

15th Annual Business Conference New England Gas Association 9

Cooperation in Action—John A. Weiser 13

Meeting Peak Loads and Other Technical Developments—Alfred I. Phillips 15

Accounting Changes Indicating Progress—L. A. Mayo 21

Domestic Sales Can Be Increased—F. E. Linburg 26

Arc Welding An Oil-Gas Generator and Water Cooler— A. F. Blair 29

Atlanta Celebrates 85th Anniversary with Successful Sales Drive—J. H. Reed 35

Sales—Technical Sessions at Baltimore 37

New Equipment & Appliances 44

News of the Gas Industry 46

another HOLLYWOOD budget acquires a watchdog

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Installed by the Northern Division of Southern California Gas Company, the two meters provide an accurate, running record of gas consumption at these famous studios.

Fuel cost records are simplified . . . instantly accessible . . . true.

One-piece, leakproof body construction and specially treated diaphragms, together with the approved two-bellows, slide valve design, insure both precision gas measurement and the ruggedness that means a long and trouble-free meter life.

Catalog EG-40 gives complete construction details — and the reasons for the unsurpassed performance records and world-wide installations of the METRIC-AMERICAN Ironcase. Write for your copy.

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INCORPORATED (ESTABLISHED 1836)

APRIL
1941

AMERICAN
GAS JOURNAL

VOLUME 154
No. 4

15th Annual Business Conference The New England Gas Association

THE Fifteenth Annual Business Conference of The New England Gas Association, held at the Hotel Statler in Boston on March 27th and 28th, maintained unbroken the record of recent years for interest and for value of program. Attendance figures were well over 600, and exceeded the previous peak, established in 1940.

The Appliance and Equipment Exhibit, initiated last year, was repeated with at least equal success and with a larger number of exhibitors. It is to be hoped that the Exhibit is now a permanent feature of these Conferences, and that the plan of restricting the hours when it is open to those when the Conference is not in session will be continued.

The "5-Star Feature Dinner" was this year's innovation and an outstanding success. For that occasion, the Program Committee invited the following "experts" who answered questions, and discussed and argued matters of sales promotion, advertising and public relations:

Frank Best, President of Frank Best and Company, Inc.

Thomas D. Connolly, Director of Program Promotion, Columbia Broadcasting System, Inc.

Captain William E. Haskell, Assistant to President, New York Herald Tribune.

Edgar Kobak, Vice President, National Broadcasting Company, Inc.

William E. Robinson, Advertising Director, New York Herald Tribune.

The Dinner Committee had said: "They will be under no restrictions, no instructions to 'pull their punches' and can contradict each other, interrupt and insult each other at will. All they will be expected to do is to give us one hour and a half of the truth, the whole truth and nothing but the truth! It will be the shortest hour and a half you ever spent following a banquet. You can definitely anticipate without fear of disappointment the most interesting, fastest moving program of its kind you have ever attended. Neither they nor anybody else will be allowed to make any speeches! Questions and answers only."

The attendance at the dinner so far exceeded expectations that it was necessary to move it to the Main Ball Room of the hotel. When the allotted hour and a half of discussion was up, the audience insisted that the experts continue until the list of questions was exhausted. This feature proved to be not only entertaining but also instructive and thought-provoking.

Several of the papers presented at the Conference are published in full in this issue. The highlights of some of the others appear below.

Nothing Is Certain Except Change

By
ALEXANDER FORWARD
Managing Director, A.G.A.

In territories where there is substantial industrial activity, largely and in some cases tremendously increased demands are being made on our gas companies, and present an important problem. Investments in new plants in order to render service at the level of our industrial rates, with the possibility of sudden cancellation of large orders being filled by our industrial customers and the certainty of sharply lessened demand some day or other, serve to accentuate the difficulties of companies already unable to earn a return upon their investment. On the other hand, no matter when the war ends, it is probable if not certain that our National Defense establishment will remain at a high level for a long time to come.

The gas industry's revenue, already on the up-grade in the industrial field and beginning to move in commercial sales, will be reflected before the end of 1941 in growth of residential sales. In the meantime, taxes, already at a very high level, will go up faster than our gross earnings. What to do about this is enough to give any of us constant headaches. Other costs are certain to rise and are already demonstrated in the fields of raw and manufactured materials.

Priorities have not yet hit the gas companies to any great extent but will come as surely as day follows night and our manufacturers of appliances and equipment are already feeling them. Orders directing priority of manufacture and shipment in our industrial loads will cause shifts in gas plant capacities and also in plant operations. We must never forget that the impact of priority orders is just about equal to the impact of an explosive bomb. It hits you before you know it is there.

The promotion of civilian and employee safety and the adequate protection of our properties in the public service is a responsibility jointly of our companies and of our state and local governments. The Federal authorities have served notice on the country, that with the exception of advice that may be given by the Federal Bureau of Investigation, plant protection and the safeguarding of civilian life is a function of the state

APR 14 1941

and not of the nation.

Under the direction of our Executive Board all member companies of the American Gas Association have received questionnaires inquiring the steps they are taking for the protection of life and property. We earnestly ask your cooperation in affording us the information requested. Some of the questions will appear unimportant; some of them may appear elementary. Remember we are trying to serve the entire industry in a very big country and all of it is done with a purpose. No malignant element will ever learn what any other company is doing and we shall use the returns only in generalized form for the information of our industry. Giving us this information cannot hurt any company and will help your country.

Manufacturers' Association Developments

By

W. E. DERWENT

President, A.G.A.E.M.; Vice President, Geo. D. Roper Corp.

According to the best figures obtainable, there was sold by the five divisions of the appliance group—Gas Range, Gas Water Heater, Gas Refrigerator, Gas House Heating, and Gas Space Heater groups—approximately 165 millions of dollars in sales and it is fair to assume, unless operations are curtailed by the Defense Program, that 1941 will show sales totaling at least 180 millions of dollars. These figures are wholesale figures and not retail figures, which normally could be approximately doubled if you were interested in the retail volume.

To give you some idea of the magnitude of just the appliance end of the gas industry business, this represents approximately three times the total net revenue of all the manufactured and mixed gas properties in the United States for 1940.

We in the manufacturers group have a real problem in trying to plan operations say 60 days ahead, due to the tremendous, rapid pace we are experiencing in these times and the continuous change of things.

I am sure you all agree with me that the appliance manufacturing and selling in cooperation with the distribution of gas has much to do in the continued economic soundness which is basic if we as a country are to get this momentous job of National Defense accomplished.

May I suggest within our own industry that there is a definite need of uniformity in the plans and policies of the gas utility companies so that manufacturers can plan accordingly. To illustrate the extremes of merchandising policies: We find at present one company with nominal mark-ups and encouraging dealers by such mark-ups. In another situation we find a policy exactly to the contrary—low mark-ups which discourage dealer activities.

Certainly you will admit it puts the manufacturer in rather a difficult position to know which route to follow, as under the present set-up there is no continuity of plan or action nationally.

The Gas Industry Is Ready For the Test

By

THOMAS J. STRICKLER

President, A.G.A.; Vice President and General Manager, Kansas City Gas Company

Viewed from many angles, the gas industry today can consider itself extremely fortunate. Our operations are vitally important in the prosecution of a program of intensified national defense and in rendering an essential service which is one of the backbones of an effective program of civil defense. This dual function of ours will take on added importance as the war continues. It also imposes on us the dual obligation to be ready to meet such special demands as may be imposed on us by the Government to accelerate the fabrication of materials of war, and at the same time we must serve the homes of the nation at a high level of efficiency.

We are particularly fortunate that we do not have to divert a major part of our operations to accommodate large-scale Government contracts and thus face the risk of becoming one-customer manufacturers. Many other lines of industry are in that situation today, and they are wondering what will happen to them when hostilities cease. However, the present situation has its complications and special problems. A number of gas companies have been obliged to construct new mains and transmission lines and to alter their supply facilities. Already the Program Committee of the Spring Conference is considering discussions of what to do when supplies of coal and oil grow scarce, regarded as a certainty; of what natural gas companies can do in the face of priority orders diverting large portions of their supplies, also regarded as certain; and how to obtain compensatingly higher rates for mounting costs of labor, pipe and most or all materials. In all other respects the gas industry appears to be proceeding normally under abnormal conditions.

Now for a brief reference to national defense as it applies to the gas industry. I believe that if a straw vote were taken of this audience it would reveal that a majority consider it a remote possibility that the United States will be invaded or bombed or shot at. In other words, we feel that war on American soil is highly improbable. This, however, does not mean that war on American soil is wholly inconceivable or that we may not be forced in the conflict either of our own will or through circumstances over which we have no control. All of these observations are somewhat beside the point. The fact remains that this nation has embarked on a vast defense program which is planned not only to cover the business of making us safe for the present, but to prepare an invincible national defense for the future. That is national policy, personal opinions notwithstanding. Furthermore, should a serious emergency arise and the gas industry fail in advance to prepare its people and its plants, then we face the prospect of having national and state authorities step into the picture and do it for us.

The Servicing Project

By

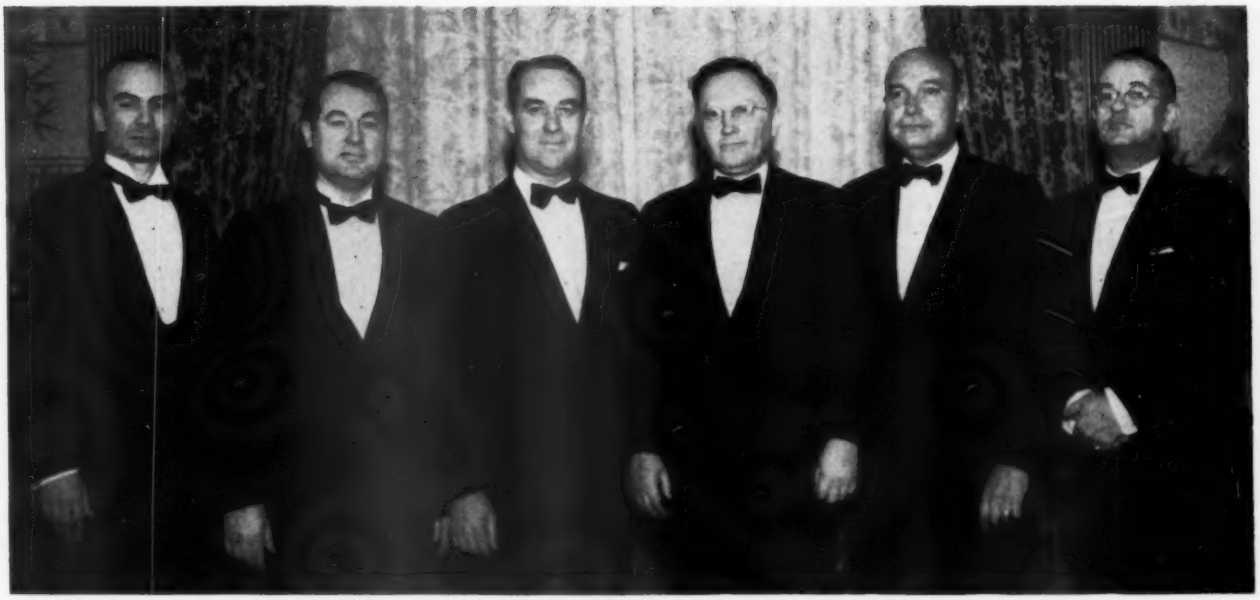
R. J. RUTHERFORD

Chairman, N.E.G.A. Servicing Policy Committee; Vice President, Worcester Gas Light Co.

It has always been the history of progress that advance in one direction means revision and comparable advance in many others. So it was in this instance. New and better devices developed to use and better interpret the inherent excellency of our product were causing increasing expenses in the cost of rendering service. Where heretofore, rather wide limits of allowable variations created no problem, now under modern conditions these allowable limits of variations were getting narrower.

After considerable thought and conversation had been expended, a group of gas men were appointed to study and crystalize the problem. It was soon apparent that this was not a simple matter. It had many approaches, many factors relating to it. The result of these deliberations led to the segregation of the main problem into four component parts.

First, equipment. It was felt that manufacturers might have made



1941-42 OFFICERS OF THE NEW ENGLAND GAS ASSOCIATION ELECTED MARCH 27, 1941.
Left to right: Clark Belden, Exec. Sec., Boston; Earl H. Eacker, Treas., Boston; Charles G. Young, Pres., Springfield; John A. Weiser, Retiring Pres., Newport; John West, 1st Vice Pres., Boston; Norman B. Bertolette, 2nd Vice Pres., Hartford.

changes for their reasons which did not necessarily provide the best solution from the utility picture. Then there were many individual utility companies each attempting to solve their problems with their solutions, with little regard to this effect on the manufacturer or other utilities. Here was a two sided problem—so a committee was set up to work along these lines called the Equipment Design and Standardization Committee.

Second, it was readily apparent that few companies knew exactly the details of the problem. Unless statistics and data were available so that the details could be isolated, much time might be lost in going off in wrong directions. Thus was created the Accounting Service Committee, whose duty was to formulate accounting procedure so that each company could analyze, and thus better supervise its operations.

Third, even preliminary investigation made evident that good as our product was, under the new conditions, minute deficiencies took on greater importance and it would be necessary to even further streamline it. So was formed the Committee on Gas Conditioning.

With all these things taking place and with the gas man's unquestioned ability to get answers and correct ones, it was only a logical conclusion to assume that our service personnel would have to be brought up to date and also streamlined. This naturally called for a fourth Committee Contact and Job Training.

Gas Distribution Under Flow Control

By
CHARLES G. YOUNG
Manager, Springfield Gas Light Co.; President-Elect, The New England Gas Association

The past decade has witnessed a growing trend of new building in the suburbs of our cities entailing the extension of new mains to take care of this business. The addition of numerous house heating installations on the old, as well as on the new, mains, together with increased demands from industrial and commercial consumers with their high demand loads, have created conditions which warrant serious consideration.

Mains and services that were, with a little nursing, capable of handling our past business, are now faced with the problem of meeting these additional loads.

Perhaps many of you think I am about ready to launch into a technical discussion of the necessary procedure to follow in meeting these problems. Such is not the case; but I do want to point out to you, in a general way, what has been done in some of our New England companies toward solving some of their distribution problems; the resulting effects on the companies and customers they supply. Not all of these companies were faced with the same problems, but primarily all were interested in

1. Reducing their unaccounted for gas losses.
2. Improving their service by reducing variations in pressure.

Tests have been made which indicate that the gas leakage in the underground system varies almost directly with the pressure carried in the mains —and that this leakage is a very substantial amount of the total unaccounted for gas losses. These tests show that a reduction in pressure will result in a corresponding decrease in leakage.

Many companies having experienced past difficulties in maintaining sufficient pressures during winter peak loads were faced with an increased house heating and industrial load this past winter. During previous winter peak days, certain outlying residential sections had complained of insufficient pressure for cooking and, as a result, the cooking load was in danger of being lost to competing fuels. To replace existing mains with larger ones meant a considerable outlay of capital in those sections which, while rapidly growing, were not definitely established. Whether those particular sections would continue to grow—or whether the trend might suddenly shift to another part of the city—presented a beautiful headache to the Distribution Departments, and to Management. Those companies confronted with this problem, knowing that Government Defense Orders would have their effect on their local send-

out, realized that something had to be done at once to remedy their situation.

After a careful study of their local conditions, a number of New England companies selected the automatic flow control in an effort to improve them.

While it is still too early to make any definite statements regarding the savings in unaccounted for gas, a survey of the properties having installed automatic flow controls indicates that there is a downward trend in their losses through gas leakage. Comparisons of unaccounted for gas figures should be based on a twelve months' period. On a monthly basis, these figures may give a false impression due to the variation of weather and the number of days covered by the meter readings, etc.

Another factor that makes it difficult to analyze the results to date is that a number of companies had already embarked on a program of tightening up their systems. The feeling, in general, is that the first twelve months' operation will show a definite saving in gas leakage. In Springfield, our figures on unaccounted for gas losses for the first four months, since the installation of the controls, show a decrease of 11,700,000 cubic feet, or 24% from the corresponding period. From this it is apparent that full year figures, if projected on the same ratio, will show a decrease in the total unaccounted for gas of 31,770,000 cubic feet.

Just what effect reduced pressure will have on main and service repairs is problematical, but it is interesting to note that there has been a substantial decrease in total leaks reported since the installation of the flow control.

Those companies formerly experiencing difficulties in maintaining adequate pressures during winter peak loads are enthusiastic in reporting great improvement in their distribution systems. Pressure conditions have been much better with a corresponding decrease in complaints due to poor pressure. There are a number of cases reported where the immediate necessity of running larger mains, and also feeder mains in districts that have grown rapidly in the past few years, has been postponed. Thus results have been three-fold:

1. The flow control has postponed the running of feeder mains this past year.

2. It will spread the relaying of old mains over a period of years.

3. It has increased the potential capacity of the system—which will take care of the future growth of house heating, and other business.

1941 Highlights On Sales Possibilities for Industrial and Commercial Gas

By

HARRY W. SMITH, JR.

Director, Industrial Publicity, A.G.A.

Our sales possibilities in heavy industry right now are hooked up so inseparably with national defense that I believe about all I can do is to note a few glaring changes which the national defense program is making, perforce, in our industrial sales approaches—be they to the brass and copper industry of the Connecticut Valley, the arms production around Springfield, your New England textile trade, the truck and tank producers of the Great Lakes, or the powder plants folks locating wherever transportation and power can be arranged and the blow-upable population is scarce.

Here are a few angles:

Change No. 1. We're dealing with new personnel by the plant-full. Before defense business took over so much of our production capacity, we knew the plant executives, the superintendents, the engineers, and the production man we were dealing with by their first names—had worked with most of them for years. Now there are so many new faces in our territories that we have to start from scratch in thousands of cases—must do over again and again the jobs of introducing ourselves and educating men in key positions to utilization technique and company policy.

Change No. 2. We're dealing with new products and new processes at every turn. In peacetime we seldom had to face jobs like hardening 3-inch armor plate, aging magnesia castings, assembling tanks, and so on—and we're not as familiar with them as we might be. Hence, we've a fast-learning job to do along with our selling.

Change No. 3. We're dealing with an unprecedented demand for speed in satisfying industry's heating needs. No longer can we take 6 months with a prospect to develop niceties of method—our time limit is more likely to be six days or six weeks. We've got to watch our P's and Q's and not let the user put in "subnormal" installations in his rush. Too much of that happened during the last war, and after it was over too many customers judged and condemned our fuel through experience with "subnormal" jobs put in in war-time haste.

Change No. 4. We're dealing with new defense plants going up *in* our territories but *out* of reach of existing mains—and that may mean "main extensions." Here our sales approach must definitely be changed. Remember, that new enterprise mushrooming up just outside your distribution map may not be there after the war, or, if it does remain, may not be the gas user it now promises to be with Uncle Sam as chief customer. You have to think further ahead these days.

Change No. 5. We're dealing with the government in many cases, and Washington's machinations are becoming important to industrial and commercial gas men who never before had to pay heed to governmental red tape, war and navy department specifications, and men or bureaus or committees remote from the city the gas company serves. Industrial gas men are writing, 'phoning, or traveling to Washington, New York and Chicago more than they ever did before.

Change No. 6. *And most important of all,* we're dealing with a golden opportunity to prove to thousands of important men and hundreds of coming industries, what gas can do. We have the chance of a lifetime to make or break gas in industry. If we let "subnormal" jobs go in, if we let our competitors beat us to the draw in serving an industry which says, "To hell with cost, get me ready for production quick"—we'll suffer after the war is over, no matter how well we do in the meantime. But, if we do a good engineering job, if we sell well and sell hard all the new men and new processes to be found, and if we watch our step by looking beyond the next armistice—we can end up with a stable, sound industrial gas lead and industrial gas revenue that will knock your hat off.

Selling Gas Heating to the New-Building Market

By

W. THOMPSON FULTON

N. E. Sales Representative, Surface Combustion Corp.

With regard to our new building potential, it is estimated that 17,000 new homes will be built in New England this year, of which perhaps 3,000 will cost under $4,000, 13,000 will cost from $4,000 to $15,000 and 1,000 will be apartments. In this territory it appears possible for active and well organized gas companies to get 25% of this business for gas heating. The potential is

(Continued on page 22)

Cooperation In Action

By
John A. Weiser
President, The New England Gas Association
Vice Pres. and Gen. Mgr., The Newport Gas Light Company

I WONDER how many of you people realize the extent of the changes which have been introduced into our Association during the past seven years.

If some of you were asked to give a quick, offhand opinion, you might say that our Association's basic structure and philosophy of operation to all outward appearances are about what they were seven years ago. In fact, if you were asked to name the changes which we have made, you might find it a bit difficult to do so. On the other hand, some of you who have been extremely close to the picture could probably outline many of these changes.

We feel that the Association is operating better today than ever before because of our present operating policies. After I have outlined the changes which we have made, I shall indicate why we feel that our practical operating results have been improved.

Formerly, there were only about 12 Association directors. Today, there are 28 directors, representing a wide selection of the membership and including, under our by-laws, at least three representatives of manufacturer member companies. This rather substantial increase in the number of Association directors was accomplished gradually. The Association directors pass upon all important policy matters.

In the past, some of our five Divisions had four, some five and some six officers and directors. Today, there are nine officers and directors for each Division—a total of 45 persons. These five boards of directors pass upon all important policy matters affecting the activities of their Divisions, the most important of which are also reviewed by the Association directors.

Expansion of Committee Work

In the past, most of our committees consisted of a relatively small number of persons. Today, few of our committees consist of less than nine persons and many of our Association research committees consist of as many as 12 to 15 persons. Our annual meeting program committee now customarily consists of about 20 persons.

During the Association years of 1933 to 1936, there were no Association committees. During those years, we were going through somewhat of a reorganization whereby we were developing the research and educational possibilities of the Association, with particular emphasis upon the programs of our Divisions. As you may recall, the New England newspaper advertising campaign which required considerable committee and staff activity had been abandoned prior to this period. Some of you recall the very interesting presidential address which Fred Goodwin gave at the 1935 annual meeting wherein he outlined the process of changing the Association's emphasis and operating policies.

John A. Weiser

During the Association years of 1936 to 1939, there was only one Association committee—the Sales Development Committee—which did a most constructive piece of work under the chairmanship of Carl Cummings in educating the rank and file of our gas company salesmen and also our sales managers in ways of doing their work better.

However, during the last two Association years, there have been eight or nine Association committees which have been conducting research which has proved most helpful to our members in a variety of ways. The total personnel of these nine Association committees reaches the substantial figure of exactly 100.

Suggestions for Programs

Early in the period of the past seven years which I am discussing, a rather novel idea was adopted which represented an extension of the plan of spreading the participation which I have outlined. This idea was the sound one of requesting our member gas companies to give us suggestions and ideas as to the subjects and speakers which they would like to have our program committee secure for our annual meetings. The first year of this plan, we received about 50 or 60 different suggestions. Each year, the number has grown and this year we received about 160 suggestions. This material constitutes the working agenda for our program committees and it has had much to do with the high standard which our annual meetings attain.

The thought occurred to us several months ago that we might be able to make the programs of our five Divisions even more valuable to our members than they have been by applying the annual meeting idea to our Divisions. That is, by inviting our member companies to give us their suggestions in this field also. I recently sent a letter and the appropriate blanks to our gas company managers and to our manufacturer company members, explaining the new procedure and requesting their cooperation. Already, I have received many replies and it seems clear that this material will prove just as helpful to the directors of each of our five Divisions as the annual meeting suggestions have proved to our program committees.

A final change which we first made last October has been to broaden the discussion opportunities available at our Division meetings. For many years, in connection with the meetings of all of our Divisions except our Sales Division, there have been substantial opportunities for discus-

Presidential Address Presented at the Annual Business Conference of The New England Gas Association, Boston, Mass., March 27, 1941.

sion and questions by the members following each speaker's presentation. Last fall, we instituted a series of round-table discussion conferences in connection with our Operating Division meetings. These conferences proved extremely valuable at the October and January meetings and will be presented at the May meeting. Members who have never before participated in discussions at these meetings have told us that they have done so most profitably at these smaller conference groups. Of course, the very lively discussions which have taken place for years at the annual conference on appliance servicing conducted by the Operating Division is well known.

Here then is a series of definite changes in operating policy which have been made gradually during the past few years and for the purpose of spreading the individual educational opportunities in the Association just as widely as is consistent with sound practice and the requirements of the situation.

I was quite amused the other day when the chairman of one of our Association committees—a man who has a splendid grasp of our industry's problems and possibilities—told me with a smile that he had had quite an interesting time educating the members of his committee this year. He explained that some of the committee members were a bit lukewarm regarding his committee's objectives and proposed procedures a year ago but that gradually, after each successive meeting, of which there have been seven or eight, he detected increased interest, enthusiasm and understanding of the work which he was trying to accomplish. He remarked that he feels that he has done quite an educational job for the New England gas industry this year—entirely aside from the formal report which his committee is rendering.

Educational Work of N. E. G. A.

The remarks of this chairman brought to the surface in my mind the outstanding feature of our Association—namely, the educational opportunities which are possessed by our various members who serve as Association directors, as Division directors or as members of our Association or Division committees and who attend our various Division and Association meetings.

This Association contains a substantial group of companies whose representatives are able to obtain a most practical and useful vocation polishing by virtue of the problems which are discussed and often solved in our various meetings.

When 10 or 50 or 100 gas men sit down together and give their experience and opinions covering various pertinent matters to each other, all of them are bound to learn something. The less experienced of them are bound to learn a great deal.

Here is the reason why we have repeatedly broadened our Association operating philosophy so that more and more of our member company representatives can participate in the deliberations of our various units. Thus, the contribution of the Association to the members has steadily increased.

Regarding many activities in life, it is an old saying that we get out of them in proportion as we put into them. I have no hesitancy in saying that those who have given most generously of their time and thought to the Association have secured the most benefit from it. This likelihood is based upon the premise, of course, that our company representatives serving in these various capacities have been alert to the possibilities of the deliberations of which they were a part. I have seen many indications that our different working groups have been composed almost without exception of men who have fully appreciated the possibilities of their assignments and who have been determined to secure the maximum value from them.

Of course, not all of our 750 individual members can participate actively in our different working groups in any one year—despite the substantial number of our individual members who do so participate as I have outlined. But—even though a given man's participation be a little less active this year and a little more active next year—and these things naturally vary from time to time—the over-all opportunity is always there for him, either as an active worker or as a student of the spoken and the written word or only in the latter capacity. The reports and meetings of our various committees, the meetings of our different Divisions and our annual meetings afford all of our individual members—regardless of the nature or extent of their Association service at a given moment—opportunities to obtain ideas and suggestions which are of practical value to them in their work.

Thus, all of our individual members, in one way or another, are able to take advantage of the educational opportunities—that helpful vocational polishing which I mentioned a moment ago—which our Association makes possible through our cooperative activities. You men can recall instances where you obtained ideas and suggestions from the various Association activities which you were able to use in a practical way in your daily work. The information which was beneficial to you may have enabled your company to introduce certain equipment or processes or policies which made possible operating improvements and economies. I have just recently been told of a half-dozen specific cases of such developments in connection with the operations of several different member companies. These improvements were made possible by the alert attention which certain representatives of these companies gave to discussions which took place in recent months in our various committee and Division meetings. I know of several instances where possible improvements or economies are now being studied which were obtained by this method and which may be introduced in one or another of our companies in the next several months.

N. E. G. A. Work Planned to be of Value to all Members

Of course, it is true that the problems, facilities, conditions and policies of our different member companies vary and that there is thus no widespread uniformity in the potential value available through participation in our different activities. A certain idea suggested by one of our members in one of our meetings may prove of great interest and value to some of our members who are present but not to others. The real point is that, sooner or later, in one way or another and to a greater or lesser extent, all of our members are directly helped through our activities. However, this lack of uniformity as to the value of the information obtained by all of our members during a given year, for instance, is, and always has been, characteristic of our Association's work.

Experience has shown that, by and large, the total over-all value is there for our members over a period of time although the details of different specific cases may vary widely.

We do not guarantee any given member company just what results it may obtain during a given year from the participation of its representatives in our activities nor would it be feasible to attempt to do so because we do not operate, we never have operated nor could we ever op-

(Continued on page 42)

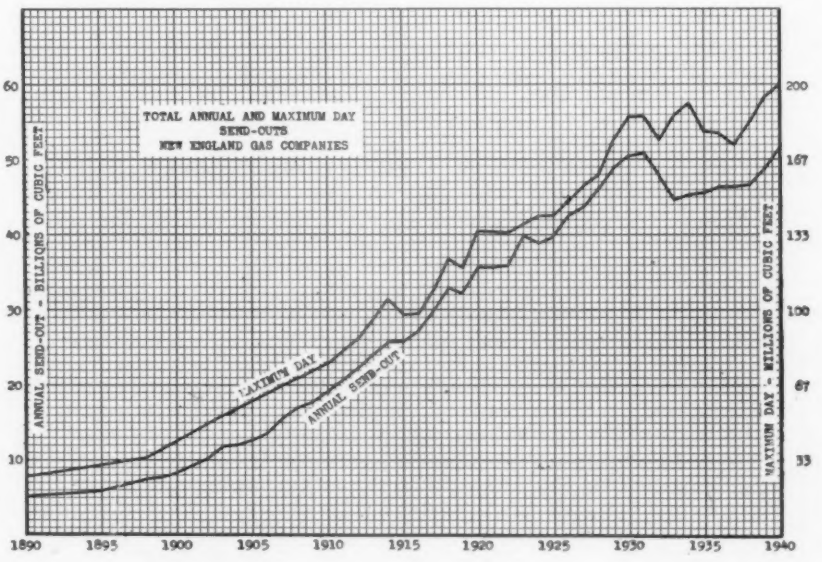
Meeting Peak Loads And Other Technical Developments

By
Alfred I. Phillips
Editorial Director, American Gas Journal
and
Consulting Engineer

TWO years ago the meeting of peak loads was for most of you an academic question. Conditions have changed; and this question has now become a vital problem to some of you, and is likely to become so to others in the near future. What is more, you are being confronted with it at a time when equipment costs are increasing rapidly and when deliveries within any reasonable time are becoming more and more difficult to secure regardless of price. The meeting of peak loads with a minimum of expenditure for new construction is therefore not only a matter of economics but apparently one of necessity as well. Fortunately, economics and necessity in this instance will generally not conflict.

Let us see what has happened.

Chart I



Trend of Gas Sales and Send-Outs

During the 1920's, in fact for years before, our business had been growing consistently; and we built consistently for the future. Sales reached a peak in 1931, and then the gain of the previous four years was lost in two. There followed six years of apparent stagnation,—doldrums the sailors call it. Money was hard to get for improvements, even where they would yield substantial economies. We experienced keen competition, which others spoke of as ruinous. Some said the gas business was dead and appeared to be waiting around to give it a second class funeral. It was almost as bad as the days of 1878 and 1879 when a President of the American Gas Light Association said: "For several years this interest has been subjected to a severe ordeal. The ordeal to which I have alluded is the competition which has arisen from the discovery of petroleum in large quantities . . . and the invention of lamps adapted to its use. . . . In some (places) the use of gas has fallen off, it is said, as much as one-third." In another year the Vice-President of the Association said: "If the electric light could be produced as cheaply and carried into private houses in the same manner as gas, and if all the other wonderful things can be done that Mr. Edison is represented as being able to do, then our business as gas men is gone, and our capital would be largely affected." All through the years we have been hearing such dire predictions about our future. But in spite of them all we are still in business, and I am here to discuss the problem of how best to meet the greatest demand for gas this industry has ever known and which is now directly facing you.

Gas sales in New England reached an all-time high in 1940; and 1941 undoubtedly will show a further gain, perhaps the greatest ever recorded.

Maximum day send-outs are trending even more sharply upward. In the aggregate they exceeded in 1939 by a substantial margin the famous peak of February 9, 1934; and 1940 showed a further increase.

This sharp increase in maximum day send-outs is not just accidental. It is a definite trend which probably will continue as our business grows. In other words, we must look forward to poorer plant load factors; and the wise will prepare to handle them economically.

It may be well to consider briefly the reason for this trend.

Changing Character of the Gas Business

It is recognized as fundamental that every business must expect some losses along with its gains and profits. The test of its soundness and stability is whether it can adjust and adapt itself to changing conditions, take advantage of its opportunities and make its gains more than offset its losses. If this be the test, then I ask you to name a business which has more claim to soundness and stability than our own.

We lost our lighting business, so you in New England proceeded to build up an annual domestic cooking, water heating and refrigeration load three times as great as that you ever had from lighting. The depression came; your domestic load fell to a

Presented at the Annual Business Conference of The New England Gas Association, Boston, Mass., March 27, 1941.

lower level; but you have already added house heating, commercial and industrial business to more than compensate for that loss.

Sales to house heating commercial and industrial customers—large volume users—constituted only about 15½ per cent of your total in 1920, 26 per cent in 1930, but by 1940 they had risen to 42½ per cent. (On Charts II and III, house heating sales represent gas used for house heating, and do not include other domestic use by house heating customers.)

The Future Outlook

With respect to your domestic load: The number of customers is substantially the same as in 1932; but total sales, and hence sales per customer, are 17 per cent less. This trend in sales per domestic customer is nation-wide. A number of investigations have been made in an effort to find the cause. The New England Gas Association is doing notable work along that line. My own interpretation of the various data is that, while some loss of water heating may have taken place, the important factors are: Less heavy cooking, fewer domestic servants, economy, more meals eaten away from home, smaller homes and families and more efficient appliances. In other words, changed needs and habits of the people, coupled with the fact that more service is now secured from each thousand cubic feet of gas, probably account for most of the decline.

Part of the increase in your commercial and industrial sales is undoubtedly due to the transfer of canning, baking and other cooking operations to them from the home.

There is every reason to believe that the domestic load can be fully rebuilt and possibly expanded. It is my personal opinion that this will come about through added customers rather than through any large increase in sales per customer. However, your greatest opportunities for expansion appear to lie in the less developed and rapidly growing fields of large volume use—house heating, commercial and industrial business. The time does not appear to be far distant when such large volume consumption will constitute more than half of your total volume sales.

Effect of Changed Business on Peak Loads

Probably by this time you are asking what all of this has to do with peak loads. Just this: Large volume business gives a poorer plant load factor than the usual domestic load; and also, manufacturing operating expenses and fixed charges form the major part of the cost of supplying it. In other words, if you are to handle large volume business successfully and profitably, it is vitally important that your manufacturing plants be adapted to handling loads with relatively higher daily peaks than at present. It is just as necessary to adjust your operations to changing conditions as it is your sales policies.

Chart 3 shows the effect of the changing character of your business on plant load factors. The lighting business gave an annual send-out less than 200 times the maximum day. Gas cooking was at first confined largely to the summer, and thus did not add greatly to the lighting peak. The plant load factor therefore improved rapidly from 53 per cent in 1887, and finally reached about 78 per cent between 1923 and 1928. Then, as house heating and industrial use became more important parts of your business, it declined again, until it now averages less than 70 per cent.

It is difficult to assign specific load characteristics to the various classes of business, and then combine them into a composite picture that will be at all accurate. Diversity plays too important a part, and there are too many local variables. Generally, however, domestic cooking, water heating and refrigeration business as a class has a plant load factor of about 80 per cent; commercial cooking business slightly less; gas house heating under 30 per cent, and industrial business a figure varying widely from place to place but probably averaging 55 to 65 per cent. Some large industrial plants operate continuously and have very uniform loads; others are running six or even seven days per week during the present emergency, but in normal times many are shut down on Saturday and Sunday and give consequently poorer loads.

Thus the outlook for those who will take advantage of their opportunities now appears to include:

(1) Substantial increases in annual sendout due largely to added industrial and house heating business, and

(2) More than proportional increases in maximum day send-out. In other words the present trends

Chart II

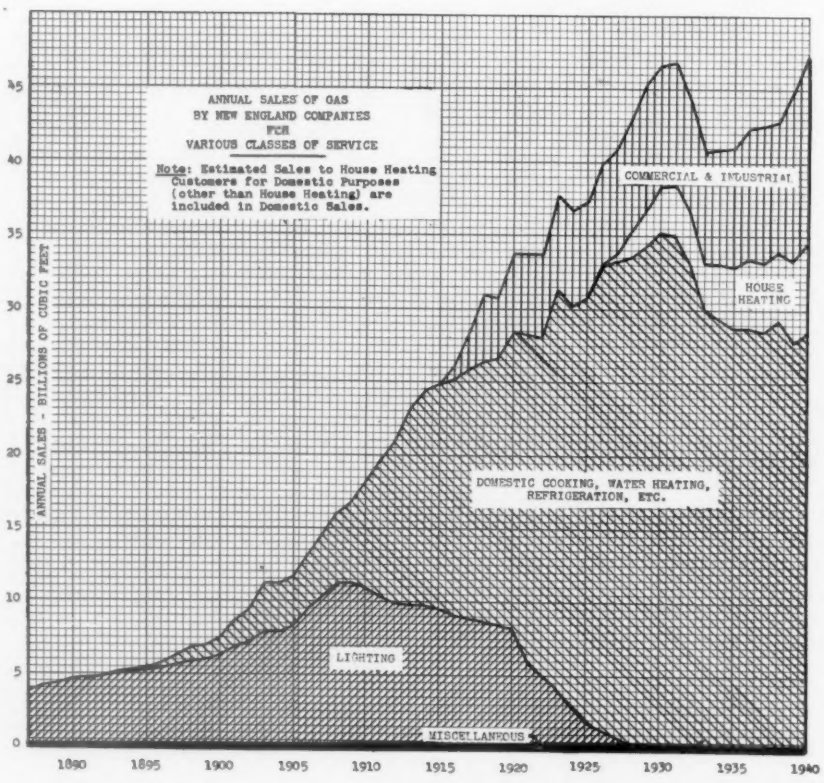
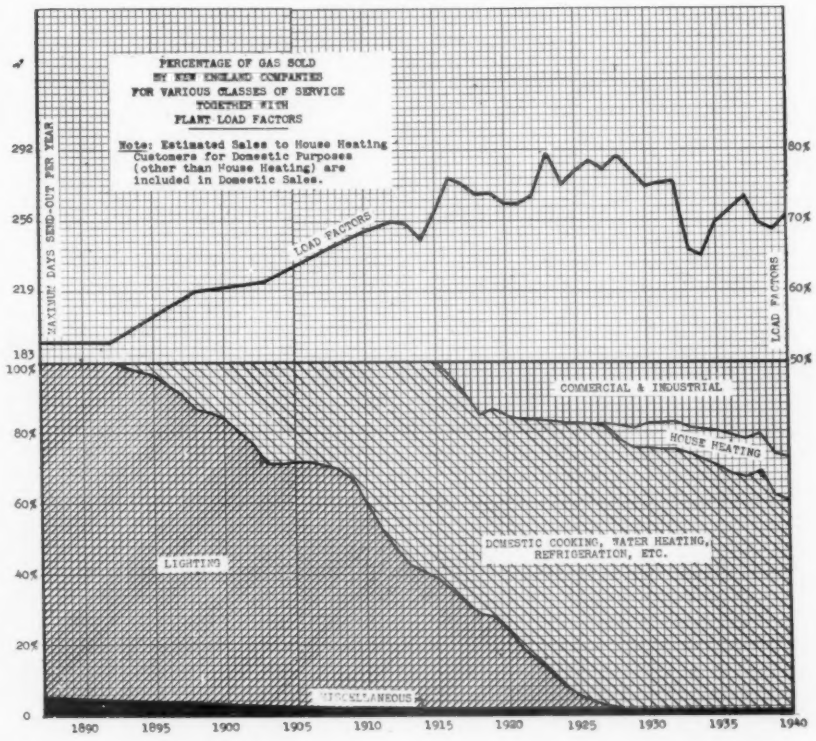


Chart III



of sales and plant load factors are likely to continue.

Distribution load factors will probably improve. Added large volume business is likely to cause deficiencies in main and service capacities principally through local concentration of demand, rather than by high general peaks. These being essentially local problems, we have directed our attention to the plant.

Economics of Handling Various Loads

To handle a uniform load, a relatively large investment may be justified in order to secure operating economy. With a widely varying load, capital expenditures should be kept at a minimum, since low fixed charges then are likely to be more important than low operating costs. Often the load may be divided into two parts: The uniform base load, for which substantial investment may be justified, and the peak load, for which economy in investment is important. Base load coal gas equipment with peak load water gas equipment, so common in New England gas works, is an excellent example of this.

Peak load gas will ordinarily be produced in the following ways:

(1) By regular operation of reserve equipment, such as water gas sets.

(2) By operation of special peak load gas production apparatus.

(3) By temporarily altering the method of operating existing equipment to get more capacity, generally at some sacrifice in operating cost.

Sometimes the latter two are combined.

Emergency capacity operation is an important extension of peak load production. Many of you have been, and particularly in the future will be faced with the question of providing more capacity to care for unusual peak loads and contingencies. Methods have been worked out in several places to secure substantial capacity increases, but there must necessarily be some temporary adjustments in gas heating value and specific gravity that might not be permanently desirable. Known ability to secure high capacity in an emergency may make it possible to defer for a long time capital expenditures that would otherwise be necessary.

Reforming Butane

One of the most interesting peak load plants operated by a manufactured gas company is located at Waterbury, Conn., where butane may be reformed in the water gas sets to augment capacity.

The installation has three of the elements mentioned above: (1) Special peak load production facilities, requiring relatively small investment; (2) Modification of the method of operating regular equipment, and (3) Provision for emergency capacity operation.

Butane reforming does not represent a very radical departure from well tried methods. The reforming of heavy oil on the one hand and of oil refinery or natural gas on the other is accepted practice. Butane lies between these extremes.

Equipment for reforming butane was installed at the Waterbury Gas Plant in 1934 and has since been operated from time to time for periods of several weeks.

The Waterbury Plant has one 11′-0″ mechanical generator set and two 8′-0″ sets. Only the 8′-0″ sets are equipped to reform butane. The object is to give these sets sufficient capacity to supply the demand if the 11′-0″ set should have to be shut down for any reason during a peak load period.

The equipment consists of a butane storage tank built for 150 lbs. working pressure, unloading facilities, piping to the sets, and an oil meter and a special patented injecting nozzle or spray for each set.

The necessary butane pressure is now secured by heating the butane in the storage tank by means of steam coils. However, the running of a line from the gas compressor outlet to the tank, so that gas pressure rather than butane vapor pressure will operate the system, is contemplated.

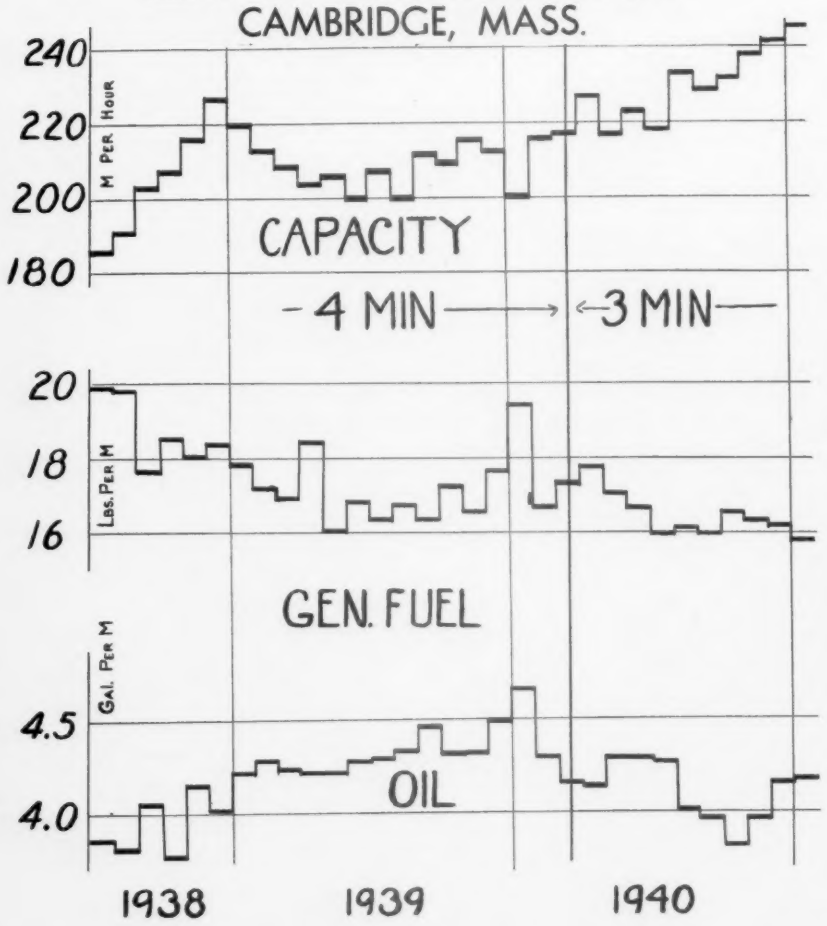
Butane is introduced onto the generator fire with the down-steam through a special nozzle, designed and patented by Mr. Harold M. Kopp of Waterbury. The proper vaporization of the butane by the steam, and the proper distribution over the generator fire is considered very important.

A Chrisman rather than a Backrun cycle has been found desirable; and the steam and butane injecting nozzle or spray is mounted on the cone of the generator.

Efforts were made to crack butane in the carburetter and superheater, but it was found that the temperatures were entirely inadequate, and the butane was merely vaporized without the slightest bit of cracking. The secret of success is apparently the regulation of set conditions so that the top of the generator fire is kept hot enough to do the cracking effectively. The proper proportioning and distribution of down-steam and butane is most important.

The sets normally operate on a 5

Chart IV — 3 & 4 MINUTE OPERATING CYCLES



minute cycle: 30% blow, 38% up-run, 26% down-run, 4% up-run and 2% air purge. Butane reforming tends to reduce the specific gravity of the gas, so a 1% blow run is added.

The steam rate on the up-run is not changed with butane operation. However, the down-steam rate is reduced from 135 lbs. to 85 lbs. per minute; and the proper adjustment of that rate has been found very important.

In spite of the low down steam rate no increased clinker formation has been noted; nor has there been any excessive back pressure on the sets.

No evidence of lamp black has been found. The free carbon dropping out apparently goes into reaction with the oxygen from the steam to form CO. Nor has there been any evidence of naphthalene or pitch. On the other hand, gas analyses show that an appreciable amount of the butane is reformed to methane and is not broken down all the way to carbon and hydrogen.

Experience in Waterbury indicates that with a normal operating cycle the reforming of about two-thirds gallons of butane per M will increase set capacity by 15% to 20%. Manufacturing material costs increased only 1.06c per M. This is partly offset by shorter hours of operation, and hence lower labor costs. Using blow runs and introducing butane for enriching also, an increase of 35%, or even more, may be possible under emergency conditions.

The following is a summary of operating results:

	Straight Water Gas	*With Butane*
Coke per M....	27.6 lbs.	23.1 lbs.
Gas Oil per M.	2.82 gals.	2.57 gals.
Butane per M..		.64 gals.
Make per Set Hour	84.8 M	99.0 M
Make per Running Hour...	90.2 M	108.0 M

Certain limitations should be noted. The generator fire probably can not gasify oil and reform butane also. With butane reforming the enricher probably must all be injected into the carburetter. Therefore, butane reforming may be limited to situations which use or may temporarily use gas oil rather than heavy oil. A marginal blast, however, might be helpful in butane reforming operation. Further work may show that butane reforming may be combined with heavy oil operation under properly regulated conditions.

It is suggested that any company contemplating the installation of butane reforming equipment consult Mr. Kopp and also one of the recognized makers of water gas equipment in order to avoid possible infringement of patent rights.

Oil Gas Plant

At Scranton, Pa., the International Oil Gas Company is about to install oil gas production equipment having a capacity of 100,000 cubic feet per day. It is claimed that the process is particularly adapted to handling peak loads. However, the gas is said to have a normal heating value of 1250 B.T.U. and a specific gravity of .77. Because of these characteristics it

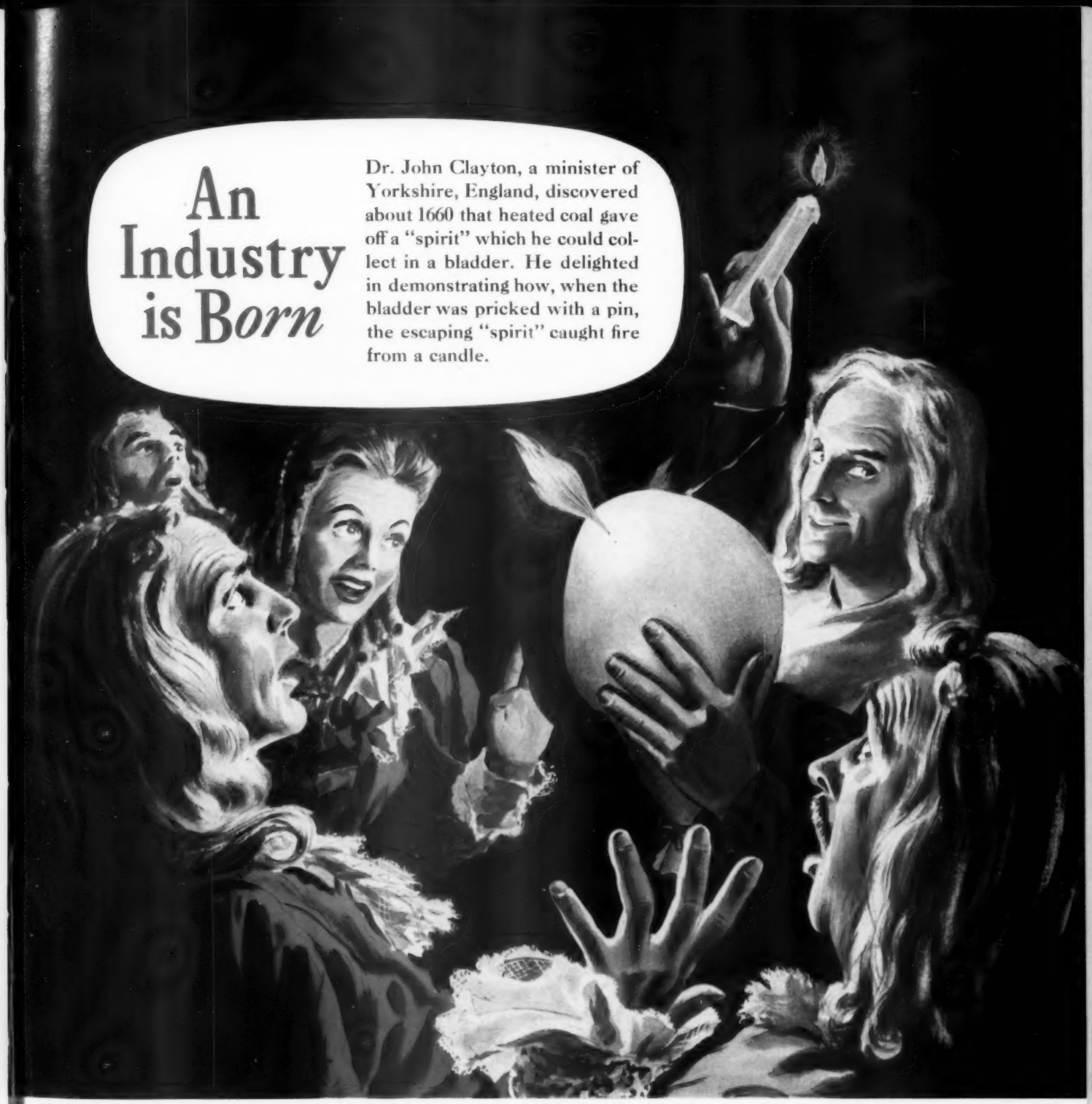
(Continued on page 43)

3 & 4 MIN. OPERATING CYCLES

Long Branch, N. J.

	4 Min. Cycle	*3 Min. Cycle*	
	Mechanical Generator Set	*Mechanical Generator Set*	*Hand Clinkered Set*
Make per Set Hour (M)	225.3	242.2	214.0
Make per Running Hour (M)	247.1	263.5	252.3
Gen. Fuel—Bit. Coal	16.0%	14.8%	14.9%
Gen. Fuel per M (lbs.)	19.1	17.9	18.5
Heavy Oil per M (gals.)	3.64	3.87	3.74
Reforming		None	
B.T.U.	531	533	5.38
Actual Average Cycle (Seconds)			
Blow	83	64	
Blow-Run	12	9	
Up-Run	77	59	
Back-Run	60	43	
Up-Run	14	11	
Air Purge	5	4	
Total	251	190	

Note: The blow is nominally 30% of a 3 or 4 minute cycle.
Experience on peak days indicates that 6,000 M to 6,100 M can be made when necessary.


An Industry is Born
Dr. John Clayton, a minister of Yorkshire, England, discovered about 1660 that heated coal gave off a "spirit" which he could collect in a bladder. He delighted in demonstrating how, when the bladder was pricked with a pin, the escaping "spirit" caught fire from a candle.

...yr., 1941, Harper-Wyman Co.

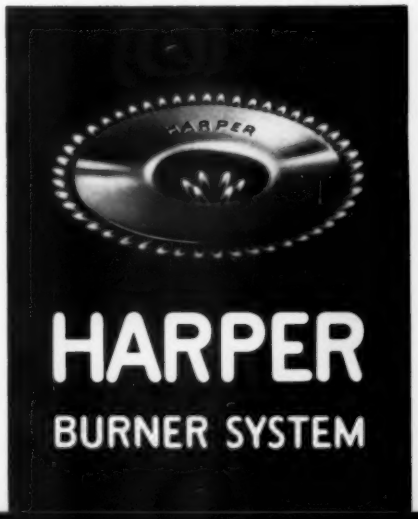
Nothing convinces like demonstration

NEVER has it been more important to the gas industry to prove that "Gas does it best." And nothing proves the superiority of gas more convincingly than a demonstration of the Harper Burner System.

Actual demonstration shows modern cooking at peak efficiency... gives life and meaning to Harper's "2 burners in 1"... proves the time-saving speed of the STARTING BURNER ... shows how the tiny flame of the COOKING BURNER keeps foods boiling efficiently and economically.

When your customers see the Harper Burner System in action they agree with you about "New standard of control ... New speed and convenience ... Matchless performance and economy... Better cooking with gas".

DEMONSTRATES THAT "GAS DOES IT BEST"



TURN THIS PAGE FOR PROOF

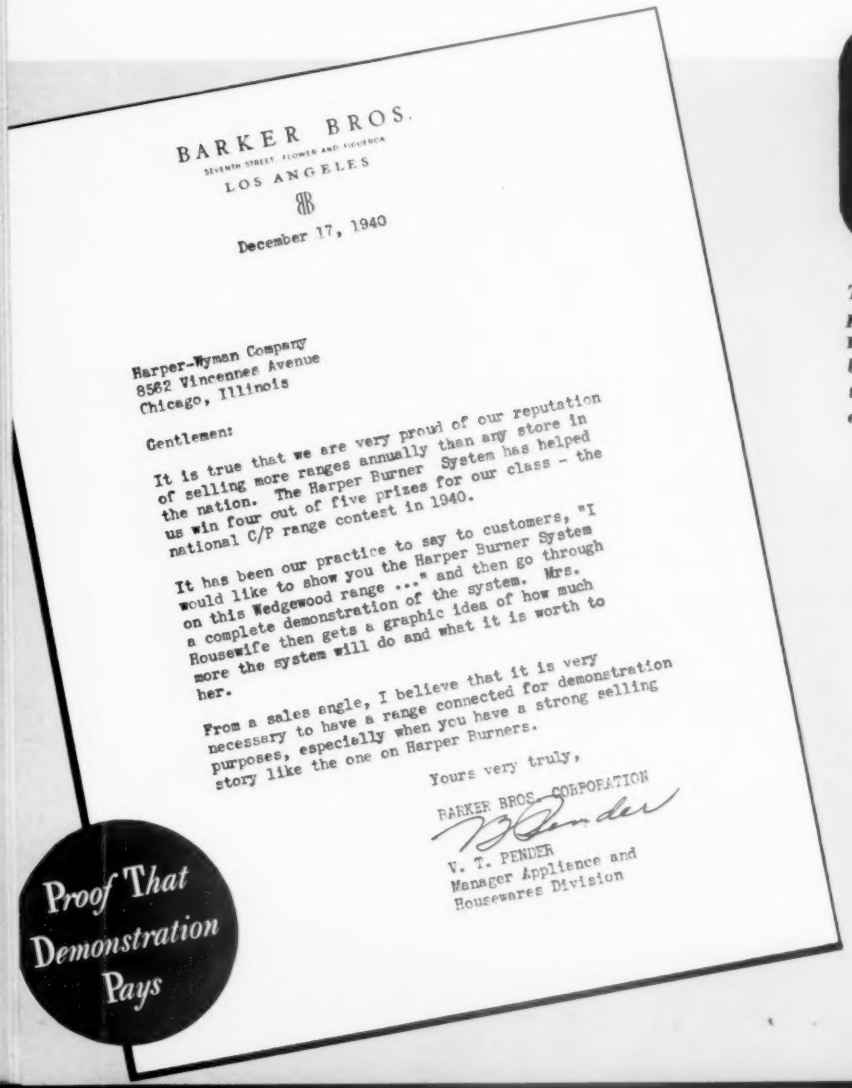
Demonstrate This Saving To Your Customers

Put a thermometer into a vessel of boiling water and use a full-on flame in an "attempt" to make the water hotter. Let your customers see that no amount of heat can raise water above its boiling point, 212 degrees.

Then explain that a cooking flame which simply *maintains* boiling is all that is necessary . . . that a larger flame would only *waste gas* . . . cause boil-overs, scorching. It could not increase the speed of *cooking* because it could not make the water hotter.

Now show your customers how the surprisingly small flame of the Harper COOKING BURNER keeps water boiling with *no waste of fuel*. Explain that this tiny but efficient burner actually saves up to 39% in gas consumption!

FREE BOOKLET: "How to Sell More Gas Ranges," contains a series of quick, convincing sales acts planned to dramatize the advantages of the modern gas range. Send for copies for your salesmen. *Harper-Wyman Company, 8562 Vincennes Avenue, Chicago, Illinois.*



BARKER BROS.
SEVENTH STREET FLOWER AND FIGUEROA
LOS ANGELES

December 17, 1940

Harper-Wyman Company
8562 Vincennes Avenue
Chicago, Illinois

Gentlemen:

It is true that we are very proud of our reputation of selling more ranges annually than any store in the nation. The Harper Burner System has helped us win four out of five prizes for our class - the national C/P range contest in 1940.

It has been our practice to say to customers, "I would like to show you the Harper Burner System on this Wedgewood range ..." and then go through a complete demonstration of the system. Mrs. Housewife then gets a graphic idea of how much more the system will do and what it is worth to her.

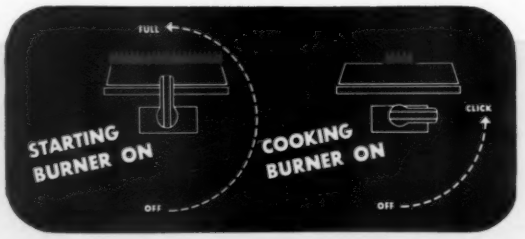
From a sales angle, I believe that it is very necessary to have a range connected for demonstration purposes, especially when you have a strong selling story like the one on Harper Burners.

Yours very truly,

BARKER BROS. CORPORATION

V. T. PENDER
Manager Appliance and Housewares Division

Proof That Demonstration Pays



The Harper Burner System operates on the unique principle of "2 burners in 1". . . a STARTING BURNER plus a small, economical COOKING BURNER, both controlled by the same handle. It is subject to finer gradations of low heats—greater control and economy—than any other cooking unit made.

HARPER BURNER SYSTEM

—one of the standards of top burner performance under C/P

Accounting Changes Indicating Progress

By

L. A. Mayo

Supervisor, Local Accounts,
The Connecticut Light & Power Company

SO MANY accounting improvements have been made in recent years that only the "highspots" can be reviewed in the time available today. Those to be discussed will not solve all accounting problems, but they have been important in improving service at lower costs. Only major procedures will be reviewed, because they affect most customers and represent the largest work volume in any company. If a long range improvement program is under consideration, some of these suggestions may be helpful.

There are many possibilities for improving **customer service billing** practices. Over the years, most companies have adopted machine billing methods, though it cannot be said today that all billing departments are using the latest or most economical system. In many companies, after adopting a new billing system, there has been a tendency to wait until the machines were worn or practically obsolete, before a later plan was considered. Actually, this often was a short-sighted policy, when better systems were available. If you have not analyzed your entire billing operation—say in the last 5 years—you will find it profitable to do so. If this study shows that a major change is undesirable, you will at least know that you have not overlooked any bets.

Customer service bookkeeping is another operation that has not received enough attention, from the viewpoint of adopting machine methods. It is true, that machine methods have been installed, chiefly in larger companies, but this does not mean that smaller companies should overlook similar possibilities. Here, also, five years is too long to pass up improvements, if you are looking for better results. Machine methods may not reduce expenses but they may show that you can give better service or handle more work at present costs. Regardless of the ultimate findings, you will know whether or not you are using the best system available.

If machine methods cannot be advantageously applied to customer service bookkeeping, there are still other improvements possible. Experience has shown that manual methods can also be effective, when bookkeeping and related operations are brought together at one point, in desks and files designed for this purpose. This has led to the development of the unit desk plan, the station plan, and similar systems called by different names. These plans have given such good results, that no company can afford to continue old practices under which operations were divided and spread around the office. What has just been said about service billing and bookkeeping also applies to merchandise accounts. There is no need of elaborating upon this operation except to again stress the value of comparison with the best systems in use.

At this point, let us consider more specific improvements in commercial office practices, which are either neglected or do not receive the attention they deserve.

Have you recently studied the advancements made in **laying out meter reading routes?** The haphazard reading schedules of the old days should be as extinct as the "doddo"; yet, many of them are still in effect. Experience has shown that meter reading routes should be partially or entirely rerouted every 5 to 10 years, but, if growth has been rapid, or if conditions have changed materially, rerouting every 2 to 3 years may be necessary. In these days of a limited work week, when efficient office schedules depend chiefly on meter reading, the importance of well planned routes cannot be too highly emphasized. A careful study of your present routes, properly coordinated with other office work, will not be time wasted.

You are all familiar with the fact that operating **meter reading sheets** represents considerable expense in any company. Then, there is the periodic problem of rewriting such sheets, a task which always creates confusion, errors and increased costs. Recent improvements in form design indicates that real progress has been made with these records. Their average life has been increased from about 2 to 4 years, with many 6-year sheets in actual use. Laborious hand rewriting methods are being replaced by mechanized operations, resulting in greater accuracy at lower costs and, what formerly was a perennial headache to accountants is just another routine today. In addition, some promising experiments are under way which may eliminate meter reading sheets entirely. These developments may revolutionize our present conception of these records and are well worth a thorough investigation.

The practice of rendering **estimated bills** has been growing each year, which may be taken as an indication of favorable customer acceptance. Yet, some companies are still spending large sums annually to pick up skipped readings while others make extensive use of skipped reading postal cards for this purpose. If a company is not estimating bills today, it would be to its advantage to consider this practice seriously.

If a company still requires customers to sign **service applications,** whenever a meter order is involved, it is time to critically review this policy. Such burdensome practices have been practically eliminated, as signatures should only be required in unusual cases. This one change has removed much customer irritation, expedited service and reduced costs. Why such practices were continued for so many years is one of those things which cannot be explained.

There is little need for reviewing the advancements in **customer deposit procedures,** as the important thing today is fewer deposits rather than the best practices. In recent years, the trend has been to reduce deposits to a minimum, and the results of such policies have been gratifying. Of course, some deposits must be taken but they should be promptly refunded when credit is satisfactory. It goes without saying, that customer relations have been improved, and, strangely enough, reducing deposits has had little or no effect on uncollectable bill losses.

Presented at the Annual Business Conference of The New England Gas Association, Boston, Mass., March 27, 1941.

Issuing and completing **meter orders** has always represented a large volume of work in both the office and meter departments. With old type orders it was necessary to prepare a new set of forms for each meter transaction. Today, a new type of meter order is replacing the old style forms. This new order can be used about eight times for the same location before a new one has to be prepared. It has expedited service, reduced costs, and deserves careful consideration if the old style orders are still being used.

In many companies, the number of **appliance repair orders** often equal or exceed the volume of meter orders. Repair orders in general use are 3 or 4 copy forms, which are handled like the old style meter orders. Within recent years, a few companies have adopted a new type of appliance repair order. It may be used about 15 times for the same customer or location, thus eliminating the need of preparing a new order for each job. Also, it provides a complete repair record over a period of time, a useful feature to increase the effectiveness of repair work. The advantages of this new order are worth looking into. As time goes on, it may be expected that such orders will be used on other work, where the volume is substantial and repetitive.

A study of present day **credit and collection practices** will substantiate the fact that red tape and poor results go hand in hand. If you want to improve customer relations, it should not be an ordeal to obtain credit or get an extension to pay a delinquent account. Likewise, if you want to reduce costs, simplify every office and field practice to that end. What can be accomplished in this direction can best be illustrated by some typical examples.

Remember the old series of **collection notices,** used each month between billing dates, that bombarded all customers regardless of credit standing. Such practices are disappearing and no one seems to mourn the change. Today, notices are directed more intelligently. Collections have improved even though the number of notices has been reduced. In many companies, notices are being mailed with the service bills, thereby eliminating separate typing operations and mailing costs. Now, collectors are provided with field collection cards instead of preparing new notices each month. The same cards are used repeatedly for the same customers, thus accumulating valuable collection history. It should be observed, however, that some companies still follow the old practices which others have found it profitable to discard.

Many utilities have learned from actual experience that customer service has been improved materially after modernizing their **office layouts.** Where the latest equipment has been properly co-ordinated with the accounting procedures, substantial economies have resulted. Time is too short to enumerate even a partial list of the latest facilities available. But, if the accountants or the customer relations men want to pick up some useful ideas, they are urged to visit their neighboring companies regularly. Utilities should modernize every antiquated office, as customers expect and should receive better service today than in the old days.

How many companies represented here today periodically review their **forms** with the object of simplifying their practices? Here is a fertile field for economy which is often neglected. Companies who have made such surveys have reported amazing results, which is indicative of what may be expected. To satisfy yourself on this point, when you return to your companies, make a critical review of your forms. It will be surprising indeed if some economies are not apparent.

Present indications show conclusively that many improvements also can be made in present-day **general accounting practices.** In fact, these operations have received such little attention in the past that a general bogging down may be expected as demands for information increase. The old-fashioned journals or ledgers have outlived their usefulness and the eyeshade belongs in the waste basket. We are in a period where mechanized operations must be used extensively, as some specific cases will illustrate.

Payroll accounting practices, in the old days, were much different than present procedures. Each branch usually did its own payroll work, sending monthly reports to the general office. Today, centralized payroll departments with machine operations predominate in both large and small companies operating over a wide area. The payroll job with its many ramifications is becoming increasingly complex, so it appears doubtful that the most efficient hand methods can survive.

Material and supply accounting is another operation ast changing to machine methods. Like payroll, its many operations are being centralized to better cope with the requirements of today. The same story applies to plant accounting, vouchers payable, cash books, bookkeeping or statistical departments. The number of general accounting reports is steadily multiplying and no relief is yet in sight. Consequently, the utility accountant must look to machine methods coupled with other improvements to produce the answers on time.

If we hope to keep abreast of the times, we must improve accounting practices as conditions change. The "survival of the fittest" law applies to accounting departments as well as to biology. Too often, our thinking is influenced by tradition or custom, so that many sound practices are regarded skeptically rather than with unbiased consideration.

Every accounting practice in effect today should be reviewed critically, and this process should be continuous. It is cheaper to replace a satisfactory routine with a better procedure when the investment loss is offset by lower operating costs, or when more information can be obtained for the same expense.

N. E. G. A. Conference

(Continued from page 12)

worth every effort to obtain the business. May I, however, make a suggestion—that we do not permit the romantic appeal of the new building market to blot out the tremendous importance of the replacement market. It is this market that is buying 80% of all the automatic heating equipment sold for competitive fuels, and in this market there will be sold probably 45,000 automatic heating units in 1941. If we neglect this market, our competitors will make the most of it.

The Gas Refrigerator—Past, Present and Future

By
GEO. S. JONES, JR.
Vice President and General Sales Manager, Servel, Inc.

Largely through the efforts of the gas utility companies about one and three quarter million gas refrigerators have been sold in this country since first introduced 15 years ago this fall. It is of more than passing interest to point out that the appliance we are talking about is the first weapon of offense that has come to the hand of the gas industry. At the time of its introduction, the electrically operated, domestic refrigerator has secured a firm foothold, with

approximately three-quarters of a million refrigerators in use, a figure that was to be the annual volume only two years later.

But 15 years after that rather inauspicious beginning, the number of refrigerators now in operation are consuming gas at the rate of over $23,500,000.00 worth per year, and, I think, we can truthfully say that the gas refrigerator has played no small part in the forward effort of the gas companies to recapture and increase their domestic gas load.

In the somewhat less than eight years of the air-cooled gas refrigerator, the company manufacturing your gas refrigerator, in spite of increased labor and material costs has reduced the cost of the refrigerator 30%. This does not apply to any one model. It was not reached by sacrificing quality, nor appearance, nor efficiency. On the contrary, in that time the capacity of the refrigerator has been increased nearly 40%, and the efficiency, as represented by the consumption of gas, has been improved nearly 30%. In addition to paying these high wages, and these high costs and a reasonably satisfactory dividend to its stockholders, Servel has continued to develop new products, to invest many thousands of dollars in research and experimentation directed toward the single objective of finding new and improved ways to use gas, such as commercial gas refrigeration and year round air conditioning. Both of these, you will notice, like the domestic refrigerator, are new uses of gas, replacing no other method of using gas—entirely new fields and in the air conditioning field particularly there is a tremendously interesting possibility.

We would like to build a less expensive refrigerator. Toward that end we are working continuously. We have nearly one hundred of the best engineers this country can provide, engineers of ability, which they share, perhaps, with others but with an experience in designing and building a gas-fired absorption type refrigerator that is theirs alone.

Their problems today are many. New materials must be found to replace material needed for defense, such as aluminum. New materials that frequently mean new designs and new production methods. And, incidentally, materials that we can get today and have reasonable hope of getting tomorrow.

Frankly, and in answer to a direct question, I see no bright prospects of major cost reductions in the near future with these problems—old ones and new ones—facing us. Rather, I see the need for seeking other ways of meeting the problem of the cheap electric refrigerator of cooperation with you, for instance, in the apartment house field. To this end we ask for individual discussion of local conditions, for they vary. But we know we can contribute materially in this field regardless of locality. We have gone, and will continue to go, a long way in joining with you in the effort to meet the terrifically low prices repeatedly quoted by electric competition, apparently due in no small part to the recurring desire of each of the many to secure a job for the sake of prestige, or some even more unsound reason. This also applies to housing projects, no small part of today's program in any business.

Organization—Experience and Opportunity

By
CLIFFORD E. PAIGE
President, The Brooklyn Union Gas Company

The young man's greatest hope of advancement in his career is based on his desire to become indispensable to his employer. But the employer may never depend on the indispensability of one individual. And so the race goes on. Each owes the other something, and the development possibility is enormous, long before any prospect of conflict arises.

Do you *encourage* a man because he is young, either in age or in your service, remembering perhaps how much those *friendly* words meant to you years ago? Have you considered how your function will be performed if you without notice are no longer available to your organization? Have you any method or system by which people may learn of developing opportunities or prospects? Can you afford to regard this message as something to which you have listened with or without interest, but which may be discarded upon the adjournment of this session? If so, I have failed miserably and have taken up your time to no purpose.

Do many of you say that my remarks do not apply to you, but rather to the person for whom you work? If so, I disagree. I believe the lesson is plain to those who wish to learn it, practically regardless of present status. It has taken us many years to build the organizations which now contribute so much to public comfort and welfare. Look over your own organization. How many men have you in important positions who were picked because of their especial fitness for the job as against the number who were selected because they happened to be on the payroll already, or for some other reason of expediency? It is often hard when a person has occupied one position for many years, to visualize him in another activity and especially a place involving greater responsibility, and yet it is much harder to contemplate and provide for the correction of a mistake you made by making the easy decision and taking the candidate most available, rather than the one most worthy.

We have tried in many ways to encourage young people to improve themselves. The strength of our future organization requires still further attention to this matter.

We have a nation-wide yearning for research in this industry and undoubtedly we will have research—more and more of it. It indicates the confidence of responsible people in the future of the business. But the future of the business depends just as much upon carefully built organization as upon equipment or combustion efficiency. One of the saddest features of our operation is our failure to offer enough compensation to put jobs in our business at a premium. Other industries, especially in the exciting times of National Preparedness or tremendous industrial activity, offer all sorts of inducements to attract young men, and at times compensation schedules have become fantastic. Such industries make no contribution to economic stability. What does it profit a boy to be hired from a technical school at $200 per month and at the end of a year find his salary cut back to $100? Such experience contributes rather to bitterness of spirit than to the determination to conquer at all costs. We have not paid enough to attract young men, and we do not pay enough now to hold older men, and we have failed to do so largely because we have gotten along from day to day and made the best of what we had. And still, regretting that we have not been able to do more in this direction, there is comfort in the fact that while we do not increase compensation as rapidly as industries under artificial stimulation may do, by the same token, we do not cut down compensation when the clouds appear upon the horizon, with the alacrity shown by some industries. Our people may not get so much money, but they are fairly sure of what they get, at least during good behavior.

1941-42 Officers and Directors of The New England Gas Association Elected at 15th Annual Business Conference:

Officers

President — Charles G. Young, manager, Springfield Gas Light Co.; *1st Vice President* — John West, regional executive, New England Power Service Co., Boston; *2nd Vice President* — Norman B. Bertolette, president, The Hartford Gas Co.; *Treasurer*—Earl H. Eacker, assistant to president, Boston Consolidated Gas Co.; *Clerk* — Clark Belden, executive secretary, The New England Gas Assn., Boston.

Directors

Directors-at-Large — William C. Bell, vice president, New England Power Service Co., Boston; F. D. Campbell, president and general manager, New England Gas & Electric Assn., Cambridge; James A. Cook, general manager, Lynn Gas & Electric Co.; Ralph E. Daniels, president and treasurer, Eastern Appliance Co., Boston; E. M. Farnsworth, president, Boston Consolidated Gas Co.; Samuel Ferguson, Jr., manager, New London Division, The Connecticut Power Co.; Hall M. Henry, assistant to president, New England Gas & Electric Assn., Cambridge; L. E. Knowlton, general superintendent, Providence Gas Co.; A. V. S. Lindsley, vice president in charge of sales, The Connecticut Light & Power Co., Waterbury; W. F. Norton, district manager, Public Service Co. of New Hampshire, Nashua; P. J. Rempe, vice president, Stone and Webster Service Corp., Boston; David S. Reynolds, vice president and chief engineer, Boston Consolidated Gas Co.; G. Warren Stiles, vice president and general manager, Portland Gas Light Co.; Geoffrey D. Yeaton, New England representative, Hardwick Stove Co., Boston.

Division Chairmen — Accounting: John H. Allison, assistant treasurer, Cambridge Gas Light Co.; *Industrial:* Walter D. McCrea, manager, house heating division, Cambridge Gas Light Co.; *Manufacturers:* George P. Velte, New England representative, American Stove Co., Boston; *Operating:* Charles P. Warner, engineer, Manchester Gas Co.; *Sales:* Ronald A. Malony, sales manager, The Bridgeport Gas Light Co.

From "Way Down Under"
come the highest grade of selected lambskins.
New Zealand Skins are noted for their small pores and fine texture. Those we treat conform to definite standards of thickness and absence of holes, scratches or blemishes.
These we use in the manufacture of
"COLONIAL BRAND"
RECHROME METER LEATHER
a product which has been recognized with universal acceptance by the Gas Industry for over 50 years.
Our leathers stand up in the meter under all variable conditions. They are strong, pliable and unaffected by heat, cold or dampness.
We also manufacture Oiled Meter Leather for Iron and Tin Case Meters, Governors and Regulators.
Superior to any substitute offered for this purpose.
NEW ZEALAND
Besse, Osborn & Odell, Inc.
65 SOUTH ST., BOSTON, MASS.
Sales Representatives
Bankart & Samuelson
177 WILLIAM ST., NEW YORK
Wilder & Co.
1038 CROSBY ST., CHICAGO

Manufacturers Division Appliance and Equipment Exhibit

List of Exhibitors: American Meter Co.; American Stove Co.; Bryant Heater Co.; Carbide and Carbon Chemicals Corp.; Coleman Lamp and Stove Co.; Cribben and Sexton Co.; Detroit-Michigan Stove Co.; Eastern Appliance Co.; Eastern Refractories Co., Inc.; Estate Stove Co.; Florence Stove Co.; General Controls Co.; General Gas Light Co.; Glenwood Range Co.; Globe American Corp.; Handley-Brown Heater Co.; Hardwick Stove Co.; Holyoke Heater Co.; Industrial Appliance Co. of N. E.; Merco-Nordstrom Valve Co.; Mine Safety Appliances Co.; Minneapolis-Honeywell Regulator Co.; Mulcare Engineering Co., Inc.; Payne Furnace and Supply Co.; Pittsburgh Water Heater Co.; Pittsburgh Equitable Meter Co.; Roberts and Mander Stove Co.; Robertshaw Thermostat Co.; Geo. D. Roper Corp.; Ruud Manufacturing Co.; Servel, Inc.; Spencer Thermostat Co.; Sprague Meter Co.; Standard Gas Equipment Corp.; Surface Combustion Corp.; Tappan Stove Co.; Nathaniel Tufts Meter Works; Universal Appliance Co.; Vacuum Gas Appliances Div., Union Fork & Hoe Co.; Wailes Dove-Hermiston Corp.; Waverly Heating Supply Co., Chambers Div.; Welbilt Appliance Corp.; Whitehead Metal Products Co., Inc.; John Wood Manufacturing Co., Inc.

Chairman, Exhibit Committee, R. B. Wright, Glenwood Range Company, Boston.

Best Paper Awards

The following awards were made for those papers presented by an employee of a member company during the past fiscal year, which papers were judged by the directors of each Division to be the most valuable and the second most valuable to the New England gas industry.

Member companies are indebted to these people for the contributions they have made to the gas industry in preparing and presenting these papers before their respective Divisions.

For the first time, an award was presented to one of the women members—Mrs. Lillian P. Dunbar, home service director of the Brockton Gas Light Company—who, incidentally, has done an outstanding job as Chairman of the Home Service Group of the Sales Division during the past two years.

Division Best Paper Awards

ACCOUNTING DIVISION: *Most Valuable*—"Meter Accounting, Statistics and Use," by A. W. Johnston, Jr., of The Hartford Gas Co. *Second Most Valuable* — "Alphabetic Tabulating Cards For Customers' Records," by J. Carr Stewart of the Blackstone Valley Gas & Electric Co.

INDUSTRIAL DIVISION: *Most Valuable—"Sales Approach For Government Projects,"* by James F. Pitman of J. C. Pitman & Sons, Inc. *Second Most Valuable*—"Utility Service In Roadside Restaurant Chains," by Arthur M. Apmann of the Derby Gas & Electric Co.

OPERATING DIVISION: *Most Valuable*—"Problems In Unaccounted-For Gas," by Kurt Richter of The Connecticut Light & Power Co. *Second Most Valuable*—"Evaluation of Oils With Refractive Index," by Dr. T. A. Mighill of the Blackstone Valley Gas & Electric Co.

SALES DIVISION: *Most Valuable*—"Tools—Time—Talk," by William H. Dunfey of the Lowell Gas Light Co. *Second Most Valuable* (tie)—"Home Service Helps The Salesman," by Lillian P. Dunbar of the Brockton Gas Light Co.; "Dollar Volume," by Arthur W. Lynch of the Boston Consolidated Gas Co.

Company Sales Contest Awards

The annual Sales Contest, which has proved so popular over such a long period of years, was amended this year so that recognition has been given to the growing merchandising trend towards cooperative dealer sales.

This year, there were 62 entries in the contest, 4 of which were not in the contest last year. This number of entries was the same as last year which was the highest in our history. The 25 awards—one for each appliance in each of the five different meter classifications—were won by 16 different companies or districts.

It is interesting to note that six of the winning companies this year did not win awards last year.

The following companies achieved the best record of any New England company, regardless of size, for the following appliance sales:

Ranges—Springfield Division of the Vermont Lighting Corp. in Class E with a record of 12.54 units sold per 100 domestic meters. Incidentally, this record is especially interesting when we consider that this figure shows a 37% increase over the figure achieved by the winner of the same award last year.

Automatic Water Heaters (thermostatically controlled)—Springfield Division of the Vermont Lighting Corp. in Class E with a record of 4.95 units sold per 100 domestic meters.

It is interesting to note that this district of this company, which has never before entered the Sales Contest, not only achieved the two foregoing all-New England records, but also won three awards in Class E.

Refrigerators—Portland Gas Light Co. in Class B with a record of 2.77 units sold per 100 domestic meters. This represents a 29% increase over its 1939 sales in this appliance.

Kitchen Heating — Framingham Division of the Worcester Gas Light Co. in Class D with a record of 2.49 units sold per 100 domestic meters.

Space Heating—Buzzards Bay Gas Co. in Class D with a record of 3.17 units sold per 100 domestic meters. This represents a 46% increase over its 1939 sales in this appliance.

Over 265 Satisfied
"Carboseal" Anti-Leak *users*

. . . Get Long-Term, Low-Cost Correction of Dry Bell-and-Spigot Joint Leakage

MORE than 265 gas properties the country over are now using "Carboseal" anti-leak treatment to correct packed bell-and-spigot joint leakage in systems distributing dry gas. And they get results! . . . The first three treatments recently applied to one mile of four-inch main reduced leakage 83 per cent. Another 1500 feet of four-inch main treated in the same way showed a leakage reduction of 82 per cent . . . Nine hundred feet of six-inch main treated as a test case showed 100 per cent leakage reduction. As a result, this company is treating and placing in service a number of cast iron mains that had previously been abandoned.

Experience shows that joints treated with "Carboseal" anti-leak keep gas inside the main and stay tight indefinitely. Joints treated eight years ago are still tight today on the soap test . . . And the cost of this treatment is surprisingly low. The average of the actual costs of 16 users who treated over 200 miles of main was 50 cents per joint.

In addition, "Carboseal" anti-leak treatment saturates dirt and rust lying in the main, holding it in place and preventing it from being carried into customer appliances.

You too can do what over 265 satisfied users have already accomplished with this accepted method of reducing unaccounted-for gas loss. Plan now to start using "Carboseal" anti-leak treatment in *your* system.

Send for this Book

This 20-page book tells more about "Carboseal" anti-leak treatment—how it can be applied by either the gravity or the hose method, what equipment is needed, how much the treatment costs, and what results can be obtained. A request on your company letterhead will bring you a copy, without obligation. Write for *your* copy *now*.

CARBIDE AND CARBON CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York, N. Y.

The word "Carboseal" is a registered trade-mark of Carbide and Carbon Chemicals Corporation.

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

Domestic Sales Can Be Increased

By E. E. LINBURG

Manager, Gas Division, Metropolitan Edison Company, Easton, Pa.

Results of a Planned Three-Year Domestic Sales Program as Conducted at Metropolitan Edison Company, Easton, Penna. and New Jersey Power & Light Company, Phillipsburg, N. J.

IN THE YEARS 1934, 1935 and 1936, the Management of our Company became greatly perturbed about the net earnings of our gas Divisions. The peak of our gas sales in both companies was reached in the year 1931. It is indeed interesting to look at the charts of our sales, which will compare with the national picture. Such a chart looks like a toboggan slide with the years 1934, 1935 and 1936 being at the bottom of the hill. Merchandising and new rates were tried and it seems as if little progress was being made in getting the toboggan back up the hill. For the sake of conversation, the toboggan, we'll say, is Operating Net Revenue.

In the year 1936, our Management appointed a committee to make a study of what could be done. This committee was made up of the best authorities of the gas business in our Management Company.

The committee came out with a very comprehensive report and recommended a "Guinea Pig" operation whereby the sales force would be increased so that each domestic salesman would have from 1200 to 1400 meters. This was to be continued for three years in order to determine if domestic gas sales could be increased.

The Gas Division was put under separate Management in the year 1937 with the idea of preparing the organization to be in a position to handle the greater volume of domestic appliances. In February, 1938, the sales organization was doubled so that each man had some place between 1200 and 1400 meters, a Home Service Department consisting of one girl for every 3,000 meters and a Heating Department consisting of six men.

I want to point out to you what has been accomplished on domestic sales in the two companies where this plan was put into effect as compared to the A.G.A. Industry figures for the same period.

The comparison of the Domestic M.C.F. figures for the Industry (excluding heating) for the year 1940 as compared to the year 1936 shows only a fraction of 1% increase. The revenue for these same years; i. e., the increase of 1940 as compared to 1936 is only 1%. The figures taken for the A.G.A. Industry includes one month estimated.

Now, let us look and see what happened in the two companies where the sales force was doubled and active Home Service work was done in the field. In 1940, M.C.F. sales for domestic customers (not including house heating) was 22% greater than in the year 1936.

The domestic revenue (not including heating) for 1940, as compared to 1936, shows a gain of 12% plus.

I believe this proves that domestic sales can be increased with a three-year planned domestic sales program.

Increased Sales Require Man-Power

We believe the manufactured gas industry, in most instances, does not get sufficient active dealer participation to give the desired volume on load building appliances. In any event, it behooves all gas companies to check the volume of sales and determine if there are sufficient dealer and company salesmen in the field to accomplish what is desired in the way of total domestic appliance sales. This was done in the case of our area. Very active promotion had been employed to attempt to bring up dealer sales and since this had failed, it was felt the only way that the necessary results could be obtained was by increasing the domestic sales force with the proper supervision.

There are very few apartment house dwellings in this area, which means that the individual customer must be called upon if they are going to be sold gas refrigerators, automatic water heaters or modern ranges. There are only about 300 working days in the year and since each individual sale requires time, it was felt that the only solution was to operate our men on a lesser number of meters. There are other situations in the country where this has been done and it was a proven fact that a salesman did not need 3,000 domestic residential meters.

Furthermore, we know that a man cannot make more than ten effective canvass calls per day. With this in mind, we gave each man 15 cards and expected ten of these to be called upon. This means that with 300 working days in the year a man should be able to get around his territory about twice a year. In practice, we found that they cover the territory between one and one and a half times a year.

The salesmen were concerned somewhat the first year of operation as to whether they would have ample territory, but sales came along very nicely and the men concluded that the year 1939 would be a good one. The average earnings per month per man were $193.40. The sales results of the year 1939 were:

Automatic Water Heaters: Approximately 3.4% saturation.

Refrigerators: Approximately 4% saturation.

Similar results were again obtained in the year 1940.

The years 1939 and 1940 were good years for our salespeople. They were happy and did an excellent job on saturation. For these two years they sold 1,036 automatic water heaters or 6.6% saturation. They sold 1,325 refrigerators or 7.8% saturation. At the present time, we have a total saturation of 24½% of our customers using either automatic water heaters or refrigerators. This is the percentage of our customers that are on our optional load building rate.

Our salesmen are very enthusiastic today on the possibilities of the year 1941 and are no longer concerned about the number of domes-

Presented at the Annual Business Conference of The New England Gas Association, Boston, Mass., March 28, 1941.

tic customers that each man has. There is also very little difference in the territories, as all territories have produced an effective volume.

Another interesting figure is that our total sales in 1940 fell off slightly as compared to 1939. In order to determine why this occurred, we checked up on the man-week sales effort that was put forth in these two years. We found in the two years 1939 and 1940 that the major appliance sales per man-week were the same—namely 2.28. Three people out of our domestic sales organization received better jobs and we were slow in replacing their sales effort. Using the sales per man-week, this means our men averaged 114 major appliances per man per year. This, we understand, is better than the average company and then, too, we have checked with several companies which had 109 and 110 sales per man-year. This, I believe, definitely proves that increased sales volume for a company requires manpower.

Home Service is a Necessary Adjunct to Domestic Load Building

Some of you will recall that I gave a paper here two years ago in which you were told that we thought Home Service girls working in the field would increase domestic usage. At that time, we selected 50 customers in each of the Home Service girls' territories where no appliances had been purchased but who had been called upon by the Home Service representative. We selected another 50 customers in each of the territories who had not been called upon by the Home Service girls where no new appliances had been purchased. These figures showed that where the Home Service girls had called, the customer consumption had a definite increase per month. Where the girls had not called, there was a definite drop. We have recently surveyed these same customers and have eliminated those where any changes have taken place (such as purchase of new appliances, etc.) and analyzed the remainder. They have stayed at about the same level as they were when they were studied approximately two years ago. The results are as follows: There was a 65 cu. ft. per month increase per customer where the girls made a call as compared with a 60 cu. ft. per month decrease where no call was made. This was taken on an average for the entire period, up to December, 1940. It appears, therefore, that there should be a net gain of about 125 cu. ft. per customer per month where the Home Service girls had made a contact.

We have attempted another method of checking the Home Service activity by comparing the actual domestic load added as shown on the Operating Reports with what we would estimate to be added from the sale of appliances, etc. In estimating the domestic M.C.F. that should have been attained, we took into consideration new customers added from main extensions or dead services, those who had been transferred into another classification because of having installed gas house heating, and the sales of refrigerators and automatic water heaters. The period covered was from December, 1936, to December, 1940. In order to determine the estimated load for each year, we only considered that one-third of the load would be effective the year in which the appliances or customers were sold or added. Furthermore, in order to have reliable figures for estimating purposes, we took 200 customers who had installed either automatic water heaters or refrigerators and analyzed them as to the increase of the gas bills 12 months before the installation of the appliance with the 12 months following the installation. The figures we used for estimating purposes are as follows:

24 M.C.F.—Automatic Water Heaters
21 M.C.F.—Refrigerators
18 M.C.F.—New Customers (estimated)
50 M.C.F.—Customers who installed gas house heating (estimated)

For the period of 1936 to 1940, the gas sales in cu. ft. that we estimated as having been added was only 82% effective as compared to the amount shown on the Operating Report. For the year 1940 the estimated load was 98% effective. Please remember our Home Service Department did not start in the field until March, 1938 and that at the end of 1940 about 80% of our customers had been called on once by them.

Since the Industry Domestic Sales (not including heating) expressed in cu. ft. has shown only a fraction of 1% increase since 1936 and from our previous experience (before this type of Home Service activity) of only having the estimated load being 50% to 60% effective, we can definitely attribute the high percentage of effectiveness to the work of the Home Service Department.

Tools Used

Many of you would like to know the tools that were made available for our salesmen during this period of time. I might say here there was not a great deal of money spent for mammoth cooking schools, parades, etc. The usual campaigns were employed.

Terms for appliances sold were as follows:

Automatic Water Heaters—4 years
Refrigerators— 4 years
Ranges— 3 years

with a $2.00 minimum down payment. Our carrying charge is one-half of one per cent per month.

Our merchandise mark-up on all appliances is 70% plus installation and delivery expense, and in the case of gas ranges the trade-in is added.

To encourage the sale of more than one appliance at a time to the retail customers, we give a combination discount of 10% if the additional appliance or appliances are purchased within a 60-day period following the initial order. The reason for this is to give the salesman an opportunity to call back after one month's full usage before attempting to sell a second appliance. Approximately 20% of our sales during the entire period were combination sales of two or more appliances.

We have been using the 60-day free trial plan on automatic water heaters for Spring and Fall campaigns. The reason for the 60 days interval of time is to strengthen our customer satisfaction by getting one month's full usage (due to our continuous meter reading policy) before it was necessary for him to purchase the water heater.

For a verified list of builders and contractors, we offer a discount of 25%. Dealers selling the same merchandise that we sell are using our retail prices. This is being done to strengthen our dealer relations, which at this time seems very satisfactory. Dealers purchase appliances either direct from manufacturer or jobbers.

During all campaigns, there are special prizes for salesmen who produce pre-determined results for short intervals as well as the attainment of quotas.

Our Domestic Promotional Rate

It is available to domestic consumers having automatic water heating, refrigeration, kitchen and central heating.

$1.00 entitled customer to use 600 cu. ft.

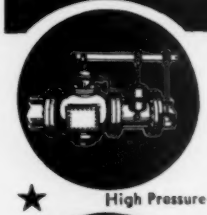
12c per hundred cu. ft. for next 1400 cu. ft.

9c per hundred cu. ft. for next 3000 cu. ft.

6c per hundred cu. ft. for next 5000 cu. ft.

(Concluded on page 42)

REYNOLDS Insures Accuracy and Efficiency WITH Coordinated Gas Control!



★ High Pressure

★ District Station

★ Industrial

★ Service

★ Low Pressure

REYNOLDS Regulators, from the big ton capacity Giant, down to small low pressure inches W. C., are carefully coordinated and tuned to function together. No control Regulation or Combination of necessary controls is too complex for Reynolds. Whether it is accurate regulation at the station, in the line, at industrial plants, or in the home, there is an especially designed Regulator by Reynolds.

Long Life — Efficient Operation — Reasonable Cost — Low Upkeep — plus Coordinated Control — are available with Reynolds Regulators. Complete cooperation of our Engineering Department is available upon request. Write.

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2nd Unit,
Santa Fe Building
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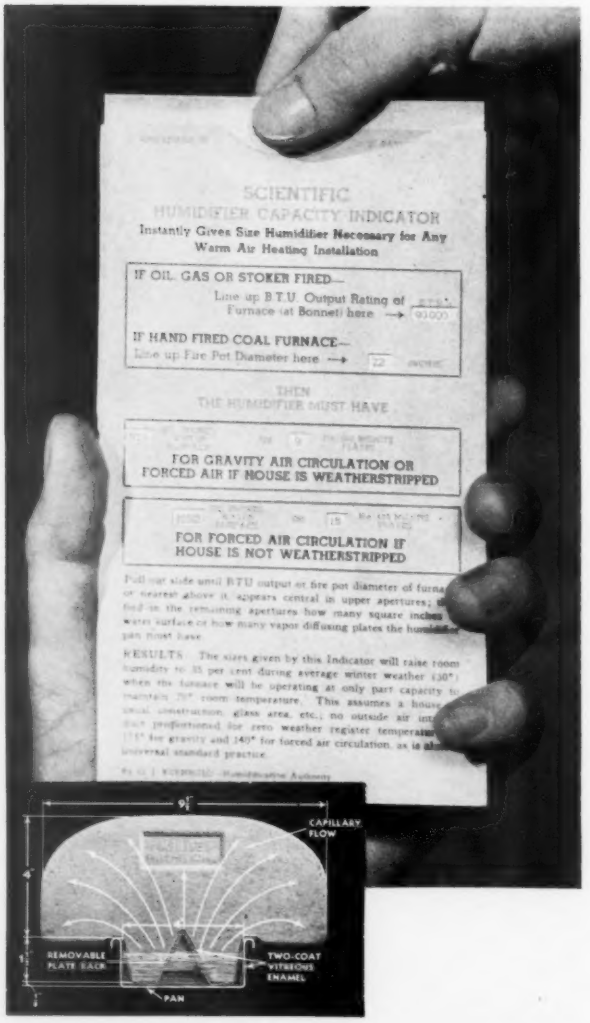
REPRESENTATIVES

Eastern Appliance Company
Boston, Mass.

Wm. A. Ehlers
268 Park Street
Upper Montclair, N. J.

GAS CONTROL SINCE 1892

REYNOLDS GAS REGULATOR CO.
ANDERSON, INDIANA, U. S. A.


SCIENTIFIC
HUMIDIFIER CAPACITY INDICATOR
Instantly Gives Size Humidifier Necessary for Any Warm Air Heating Installation
IF OIL, GAS OR STOKER FIRED—
Line up B.T.U. Output Rating of Furnace (at Bonnet) here →
IF HAND FIRED COAL FURNACE—
Line up Fire Pot Diameter here →
THEN
THE HUMIDIFIER MUST HAVE
FOR GRAVITY AIR CIRCULATION OR FORCED AIR IF HOUSE IS WEATHERSTRIPPED
FOR FORCED AIR CIRCULATION IF HOUSE IS NOT WEATHERSTRIPPED
RESULTS

HUMIDIFICATION COMES OF AGE

Gas companies are supposed to know what they are talking about. The public expects it. But up until now neither you nor *anyone else* could say *definitely* how much humidifying capacity was required for a given job.

Today, thanks to the Monmouth Capacity Indicator, your men can quickly determine whether adequate capacity is being supplied. And with Monite Vapor Diffusing Plates you can *give* the customer the correct amount regardless of the available space in the plenum.

These two developments, backed by the greatest name in the industry, have made humidification an exact science.

Monmouth Capacity Indicators are supplied free of charge. May we send you yours plus complete data on Monmouth plates and controls?

MONMOUTH PRODUCTS CO.
1939 East 61st Street **Cleveland Ohio**

MONMOUTH
The Greatest Name in Humidification

Arc Welding An Oil-Gas Generator And Water Cooler

By
A. F. Blair

IN THE FALL of 1936 owing to the growing scarcity, and increasing cost of local or Washington coal adapted to the manufacture of illuminating gas and also due to the fact that the present benches or retorts used in the manufacture of gas from coal would have to be replaced, it was decided to change to the manufacture of gas from oil.

The manufacture of gas from oil is not new in the west but the generators as used were the growth from previous wasteful methods to the present designs where the waste heat is largely conserved and all by-products recovered. The capacity and efficiency per dollar invested has also been increased.

This article is not intended to be a treatise on gas making in any way except to cover in a brief way the general design and operation of the generator so the reader may see the general requirements.

Drawing #1 shows the general arrangement of the generator proper with the washer cooler, (see Fig. 1), consists of a main shell 20 feet inside diameter made of ½" and ⅜" plate 56' 4½" from bottom of cylindrical shell to bottom edge of top cone. The cone has a slope of 10⅞" (vertical) in 12" (horizontal) or a height of approximately 9' to the apex, if produced. The entire installation is arc welded.

The entire shell including the cone is lined with Sil-o-cel and fire brick as follows: Next to the shell two 2½" courses Sil-o-cel C-22 on end. Then 1½" Di-insul Powder. Then two 9" courses of fire brick laid flat making the inside diameter of the brickwork 15' 11".

Inside the side brick lining of the shell, the space is filled with fire brick in the form of checkerwork. The checkerwork is supported on Gothic arches as outlined and shown in Fig. 2. Above the checkerwork and under the conical top is a firing and oil spray chamber. Below the lower set of Gothic arches is the receiving chamber from which the waste gases of combustion are piped to a waste heat boiler and also from which the crude or unpurified gases pass to the wash box and washer cooler.

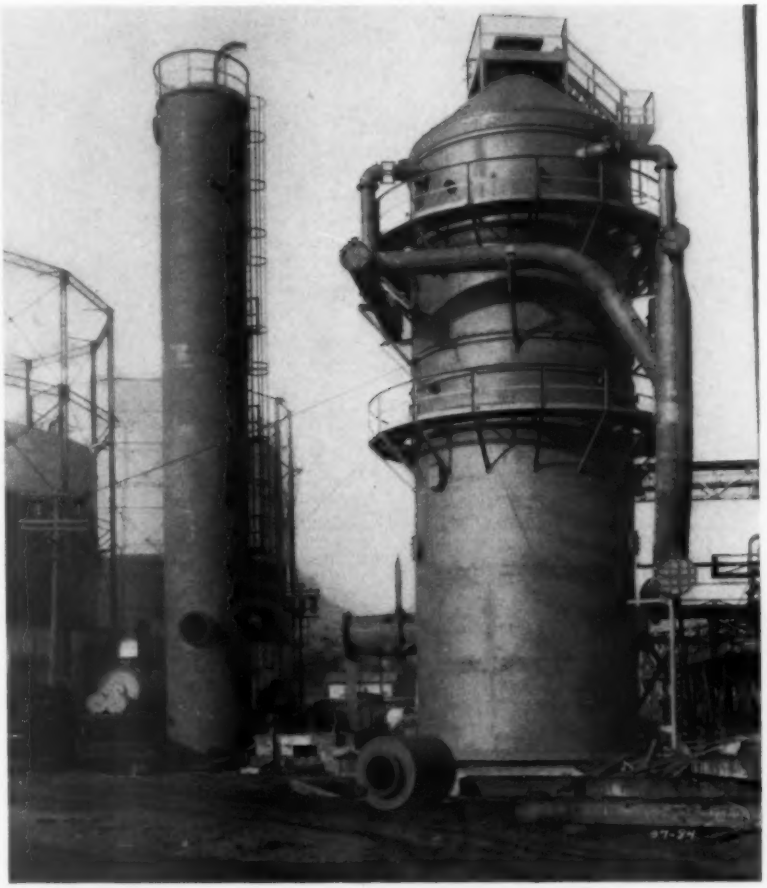


Fig. 1—Arc welded oil-gas generator and water cooler—first of type ever built.

A total of 183,600 fire brick were used in the interior lining and checkerwork of the shell, total 645 tons.

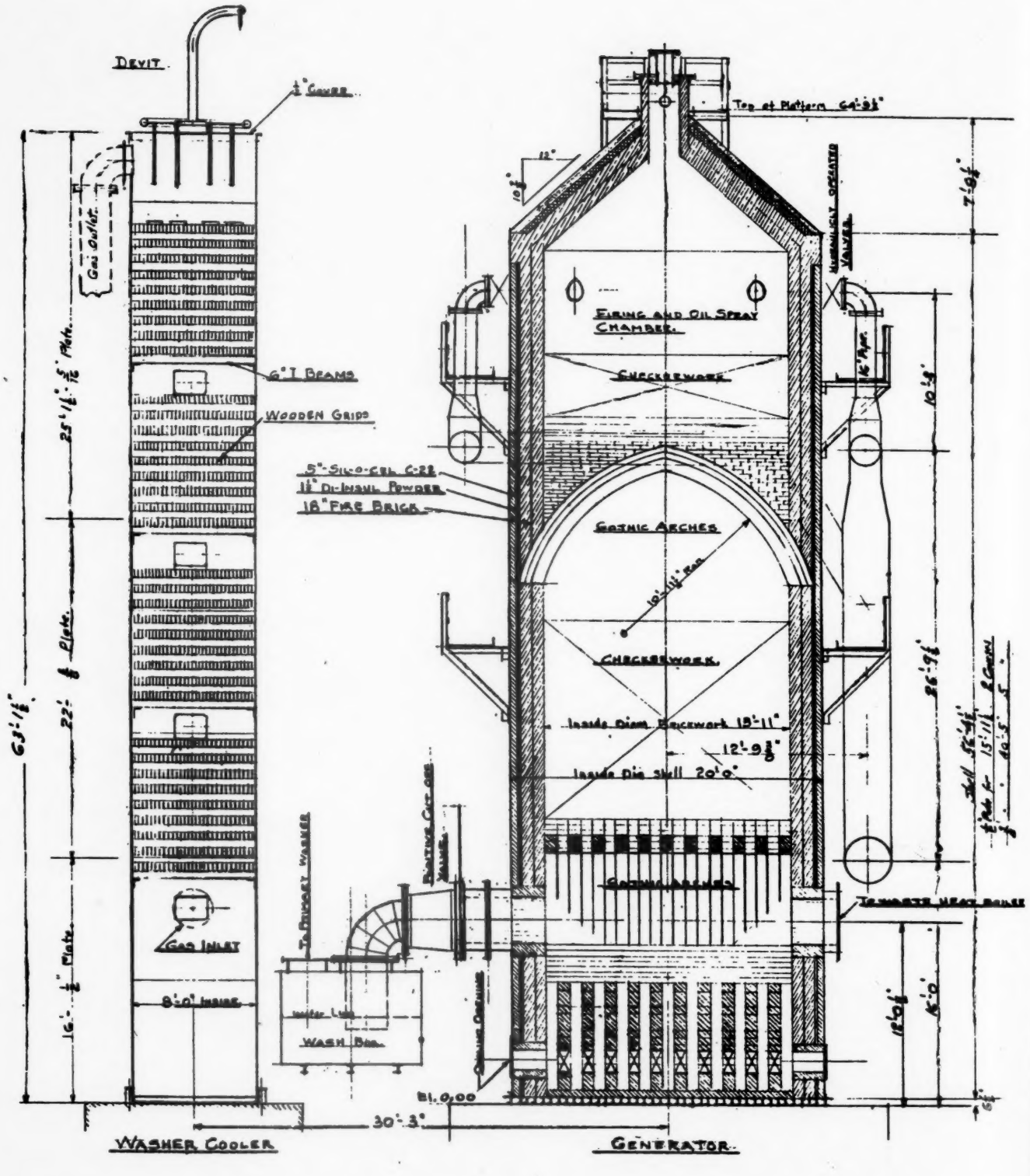
The operation is as follows for one cycle of 15 to 16 minutes:

Oil is fired in the top chamber to heat brickwork for	6 minutes
Purge with 15# pressure-steam	1 minute
Turn on oil sprays and make gas	6 minutes
Purge with steam	1 minute
Blow dry air before firing oil	1 minute
One complete cycle	15 minutes

The oil used is low-grade being practically nothing more than the residue from the oil refineries. During the firing period the brick at the top of the generator reaches a temperature of approximately 2600 degrees F. During the periods of purging and making gas the temperature drops to approximately 1400 degrees F. a change of 1200 degrees every fifteen minutes.

The finely divided oil spray entering the hot chamber at the top of the generator and coming in contact with the heated brick, breaks up or "cracks" into gas, benzole, lamp black and a small amount of tar. The lamp

Data and illustrations from a study submitted to the James F. Lincoln Arc Welding Foundation by A. F. Blair, engineer, Garrett & Shafer Engineering Works, Seattle, Wash.



black is condensed in the wash box, the tar in the washer cooler while the benzole is extracted from the gas as it goes to the holders.

During the period of firing oil to heat the generator, the waste gases of combustion go to the waste heat boiler.

The static pressure in the generator is comparatively small, maximum about 66" water but the expansion stresses due to uneven heating of the brickwork are serious and undeterminate and above all the shell had to be air and gas tight.

Time of delivery and accuracy were important items as well as cost of the finished shell. It was therefore decided that a full welded installation would be best. No bolts or rivets were to be used except for bolting valve and pipe flanges to the welded nozzles on the generator shell and for access and inspection door covers which of necessity must be removable and also gas tight without the use of gaskets. This meant that all connections to the shell must be welded hence must be made of steel. The only cast iron used is in valve bodies and manhole door covers.

Owing to the delivery desired it was necessary to use such plates as could be procured from stocks, which made the cost some greater than it would have been had we been able to wait for eastern shipment by water.

Foundation

The foundation proper is of reinforced concrete on piles. The top of the concrete, (see Fig. 3), was brought to a perfect level and finished absolutely smooth. On this was placed a deck of 6″-12.5″ I beams 6″ centers, making almost a solid mat for the support of the ½″ bottom plates of the shell, (see Fig. 4).

The bottom consisted of four ½″ plates making a circle 20′ 9″ outside diameter having an outer flange of 3½″x3½″x½″ angle. The plates were sheared, beveled and fitted and the angle bent in the shop. The welding of the bottom plates and flange angle was done in the field. Great care was taken to make the inside of the flange angle a perfect circle.

Generator Shell Shop Work

The first two vertical courses of the shell were made of ½″ plates 96″ wide all edges bevel-planed on plate planer, insuring accuracy as to size and bevel.

After beveling 13/16″ holes for temporary bolting during erection were laid out, about 24″ centers spaced so as to bring the vertical joints in their proper relation, and match marked. The five upper courses of the shell were made of ⅜″ plate, all edges being bevel-planed in plate planer for welding the ends of the plates crimped and the plates rolled to templet.

The upper or top cone was formed of ⅜″ plate and fitted in the shop, all edges being bevel planed and erection holes punched. This was shipped in ten sections, all welding of the seams being done in the field.

Attachments

All nozzles, manholes, walkways and attachments were fabricated in the shop, locations laid out on the completed shell, openings, when required, were flame cut and all connections made by arc welding.

All circular walkways, stairways and platforms were fabricated in the shop with brackets and attachments. All were attached to the shell by welding and all parts requiring joints in the shop were welded. All brackets were assembled and welded and delivered ready for erection.

Washer Cooler

Adjacent to the Generator and connected to it through the Wash Box and Primary Washer is the "Washer Cooler." This is essentially a vertical cylinder 8′ diameter by 63′ high partially filled with wooden grating

Fig. 2—Gothic arches for support of brickwork.

through which water sprays fall meeting the ascending gas, thus washing and cooling it at the same time. The overflow from the washer carries some tar which is reclaimed.

Wash Box

The "Wash Box" is a circular box 9′ diameter by 6′ high of 5/16″ plate, half full of water, the water being fed into the box by a system of vertical spray pipes. An adjustable overflow and trap maintains the water level. The gas inlet, 30″ diameter from the generator extends about 8″ below the water level. The gas, entering from the generator, bubbles through the water and through sprays thus receiving its first washing and cooling. Here most of the lamp black is precipitated and carried by the overflow water to the filters in the briquette plant. From the wash box the gas is led into the primary washer.

Primary Washer

The primary washer is a horizontal tank 8′ in diameter by 10′ long of 5/16″ plates. By means of a system of interior stationary baffles and two shafts revolving at high speed on which are mounted cast iron pulleys dipping into water, the gas passes through a fine water spray on its way to the washer cooler.

The wash box and primary washer were built entirely in the shop, arc welded throughout, continuous welds, all parts of steel, and no bolts used except for bolting stuffing boxes and flanged pipe connections. They will not be further described or discussed as there was nothing new in their use or manufacture and were built under a separate contract.

Erection of Generator and Washer Cooler

The erection of all material of the generator and washer cooler shells was done by means of a guyed derrick having an 80′ boom and an 90′ mast mounted on a crib deck in the center of the generator bottom after the bottom had been placed and welded. Mast and boom of fir, safe capacity 5 tons, hoist was a three drum, and gypseys 5 ton 440 volt alternating current electric hoist. Hoist and boom lines ¾″ 6x19 plow, hoist blocks single, boom blocks double.

The first plate of the bottom course was set by hand and the hoist and boom lines passed through a "cooling

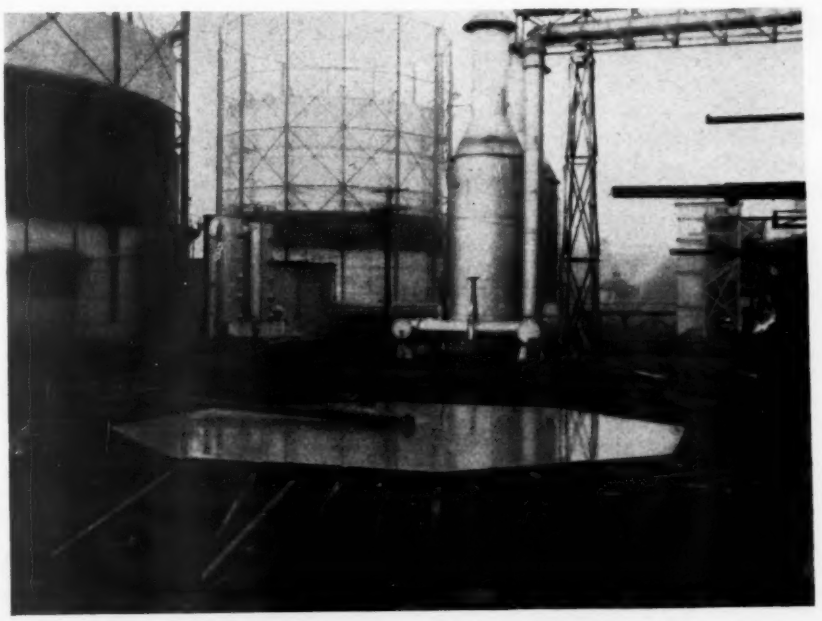


Fig. 3—Smooth concrete foundation for generator.

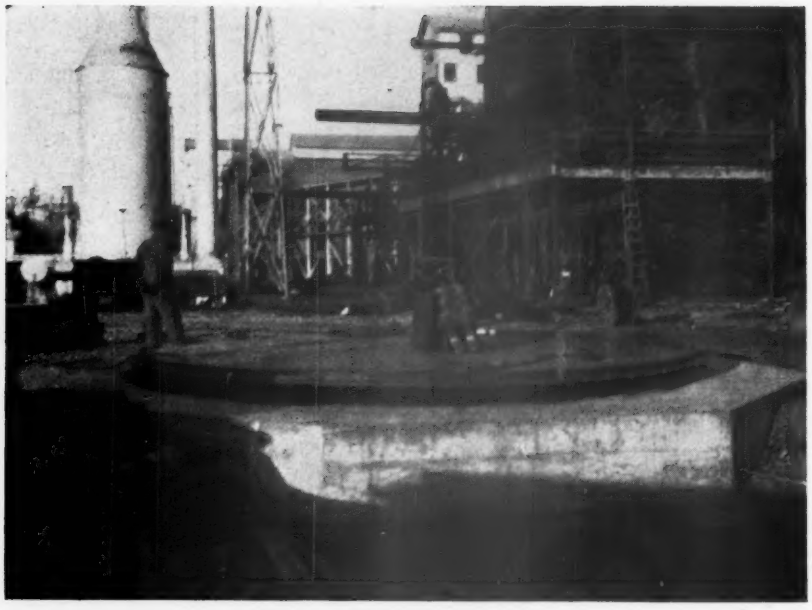


Fig. 4—Bottom of generator in place. Start of welding.

hole" which was a permanent opening in the base of the shell. The rest of the plates of the first course were then set in place and firmly wedged against the outside bottom angle. Temporary steel butt straps 4"x½" having a 4"x⅛" copper strip between the steel shell plates and the steel butt straps, were then bolted in place with ¾" bolts and washers pulled up tight. Vertical alignment was then checked and the top of the shell course trimmed. Holes in butt straps were slots spaced 6" centers so they could be shifted to match end holes at seams. A bolt hole was always placed close to the ends of the plates. The bottom inside of the shell plates were then tack welded about 3" every two feet to the bottom plate and were afterward continuously welded inside and out described for horizontal circumferential seams. Three 300 ampere motordriven (440 volt a.c.) welders were used. After the bottom was welded and the first course was erected, these machines ran almost continuously 16 hours per day during the erection and welding of the entire installation. No gas welding was used, arc welding being used throughout.

All seams were then tack welded about 2" every two feet with 5/32" welding rod. The welder then went to his first tack weld and added about two to three inches to it and went to the next one, finally having a full weld the length of the seam fused through the plate to the copper. A second pass was then made using 3/16" wire making short welds about every two feet until the seam was completed. Three passes were used on the heavier plates to completely fill the seam, all passes being made in short welds. In this way there was no excessive heating of large areas of plate, no warping or buckling of the shell, and due to the care in manufacture in the shop, perfect vertical alignment was easily maintained, all courses were level and when the shell was finished it was not out of round or off center more than ¼" at any point.

As soon as the bottom and vertical seams of each course were welded, the butt straps and copper backing strips were moved up the top of the course and the operation repeated. A substantial scaffold was built inside and outside, so erectors and welders could work to the best advantage. The platforms were placed about two feet below the horizontal seam. This allowed the welders to work in a comfortable position.

Washer Cooler

The washer cooler was erected in conjunction with the generator, the same derrick being used for hoisting. Scaffolding being erected for the erectors and welders and using the same welding methods. (In fact the washer cooler was finished a few days ahead of the generator.) It having a flat top, the top was hoisted in one piece and the devit placed and welded before the top was placed on the generator. The devit is carried by ball and roller bearings.

One section of the generator top was left off until all shell hoisting was finished, the derrick boom removed and the last section placed using the mast as a gin pole.

The upper platform was then erected and welded and top nozzle set on this platform ready to be put into place. A section of the mast was cut off, the top nozzle set and welded. The mast was removed in sections through one of the nozzle openings in the lower part of the shell.

A short jib was then erected on the generator for hoisting attachments, brackets and walkway parts. The brackets for walkway supports were carefully located on the shell, interfering scaffolding removed and the brackets welded in position. All openings for sight cocks, spray nozzles, manholes and air and steam piping were located on the shell, flame cut and the various connections and manhole door frames welded in place.

The holes for the temporary butt straps were welded shut, using the end of a copper bar for backing, the welding being done from the outside before scaffolding was removed. Small special connections were made of cast steel with flanges and lugs cast on, faced and drilled. Medium connections 6" to 12" were made with steel pipe and slip on flanges welded on. Large nozzles or connections were made of plate with slip on flanges welded on. In all cases, as mentioned before, the flanges were faced after welding so as to insure a perfectly accurate face for valves and fittings.

The safety ladders and platforms on the generator and washer cooler were fabricated in the shop located and welded in place as the scaffolding was removed.

The construction of the manholes may be of interest as they were used in many parts of the installation and were furnished on a separate contract.

The manholes were 16"x20" inside, the cover being held by ten ¾" eye bolts two being used as hinges. The frames were made of 6"x¾" bar, in two pieces, the corners being formed or bent under the hydraulic press, the ends scarfed. The two halves then arc welded to make a solid frame. The lugs were cut and punched from solid bar. The frame and lugs were then clamped in a jig and the lugs arc welded to the frame. This insured alignment of the holes and proper spacing of the lugs. The frames and covers were then placed in a mill and faces finished to practically a ground joint.

It was found a welder could assemble both parts of the frame, assemble the lugs, place in the jig and completely weld and dress off six frames per day.

The cost of thirty 16"x20" frames and covers was as follows: all work being done by hand on available shop equipment without special equipment except the jig.

10—20-foot Bars 6 x ¾	3100#	124.00
Lugs	850#	34.00
Eye Bolts and Pins		72.00
Covers, cast iron 115# each	3450#	138.00
Bending & scarfing frames including press operation		27.70
Welding Frames and Lugs		36.00
Facing frames and covers 90c ea.		27.00
Miscellaneous Shop Labor		9.07
Shop Overhead 60% on labor (60% $114.70)		59.86
Net Cost 30 manholes		$527.63
Net Cost each		17.59

It was estimated that these would have cost $24.95 each if the frames had been cast steel and no welding used. All walkway gratings, platform gratings and stair treads were forged and cut to fit at the factory ready for erection and no trimming or cutting was found necessary. The sections were set in place and secured with clips, although at a few points it was thought advisable to tack weld a section, as at the edges of a landing.

Costs

In the following tabulation of field welding and erection costs we have omitted the welding costs in the shop, of shop fabrication. Cost of material differs in different parts of the country and no two shops are equipped so as to fabricate in the same manner. Also this generator and washer cooler were built from stock plates which necessitated using sizes which resulted in some waste and which would not have occurred had we been able to get exact sizes from the mill.

Cost Details

Generator Bottom:	Lineal Feet Welding	114 Ft.	
	Labor Cost Welding		$ 25.50
	Labor Cost per foot	22.4c	
	Labor Cost erection		32.82
Generator Shell:	Lineal Feet Welding	1552 Ft.	
	Labor Cost welding		$612.42
	Labor Cost per foot	39.5c	
	Labor Cost erection		354.97
(Includes Roof 265 feet welding $113.89. erection 99.57)			
Lay out cut openings and welding 17 manholes, 14 oil connections 4-16 inch Blast pipe nozzles, 14 peepholes 2-48 inch main outlets			$239.27
Erect positive cut off valve			11.00
Clean and paint welded joint			23.85
Unloading material			15.07
Build Scaffold inside and out			116.61
Remove Scaffold			27.39
(a) Structural Steel:	Lineal Feet Welding	272 Ft.	
	Labor Cost Erection & Welding		407.32
(b) Blast Piping:	Lineal Feet Welding	80 Ft.	
	Labor Cost Erection & Welding		204.45
(a) (b) (No separate cost was kept on welding these items.)			
Clean and Paint Welds			9.50
Washer Cooler:	Lineal Feet Welding	550 Ft.	
	Labor Cost Welding		223.32
	Labor Cost Welding per foot	40.6c	
	Labor Cost Erection		120.73
Building Scaffold—Washer Cooler			67.69
Unloading material—Washer Cooler			8.50
Clean and paint welded joints—Washer Cooler			15.00
Remove Scaffold			12.86
(Second hand lumber from other jobs)			
General:			
Frame derrick, set and dismantle			164.28
(b) Temporary Guys account of wind storm			4.50
Build toolhouse, set welding machines & hoist			34.40
Pick up equipment and load out			15.22
(b) Reclaim Scaffold Lumber from wind storm			7.42
(b) Not in cost, covered by insurance.			
State Industrial Insurance not in above costs			
Superintendent charged to overhead (Monthly salary)			

Hourly Rates:

Field		
Boiler makers	1.41	2/3 per hr.
Welders	1.41	2/3 per hr.
Hoist Operator	1.37	1/2 per hr.
Helpers	1.25	per hr.
Laborers	.75	per hr.

Note: Electric power, steam compressed air and water were furnished by the purchaser from the main plant system and no record was made of the power consumed.
No overhead is charged in field.

Advantages of this Type of Construction

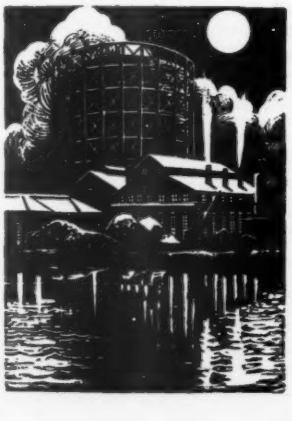
This is the first generator of this exact type to be built. Oil-gas generators are common in the west but this one is the outgrowth of many different types and is a new machine for design, size, operation and capacity.

As no other machine similar to this had ever been built by the older methods of riveting, no accurate actual comparison of costs can be made. It can be readily seen, however, that the welded construction has many advantages over a riveted generator.

First, the material required is less, no butt straps are required; no rivets or seams to be caulked; attachment of nozzles, manholes, drains, pipe work, ladders and platforms is a simple proposition. Lay-out work in the shop is simplified, drafting room time is reduced and the general and detail design simplified and made better than could be done with a riveted job.

Chances of errors in the shop, a thing which all shops dread, are minimized.

The inside of this shell is absolutely smooth and round, except for some nozzles and manhole frames which project through the shell ½" so as to weld both inside and out. This was an advantage to the brick layers as there were no offsets or rivet heads to bother with.



The shell is tight and will stay tight. No leaks have showed up on the shell of the generator or the washer cooler.

When operation was first started it was found desirable to add more oil sprays. These were added quickly at small cost. Had these connections been riveted it would have required the removal and replacing of a lot of extra brick work besides the greater cost of flanged nozzles and the cost of riveting and caulking.

The control house, control valves (hydraulically operated), oil, gas, steam and water piping were installed by the purchasers.

WITH APOLOGIES TO PLUTO

for those problems of gas appliance venting—
"If nature WON'T the Republic Exhauster WILL"

Republic has perfected a system of SAFE mechanical evacuation that will clear up those vexing problems now confronting you and point the way to enlarged opportunities for gas in both commercial and domestic markets.

Ask for information on the Republic System for the evacuation of gas appliances.

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Fulton
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Regulator

It Stops the Flow of Gas If Pressure falls too low

ON a low pressure burner or furnace, the Fulton Cut-Out-Latch Regulator stops the flow of gas if pressure falls below the desired minimum. Whenever that happens, the cut-out latch will operate automatically to bring the valve to its seat and lock it there. Flow will not resume until the operator goes to the valve and opens it by hand. This eliminates completely the hazard for which the regulator is designed. Approved by insurance companies. Write for Bulletin No. 2987.

The CHAPLIN-FULTON MFG. CO.
28-40 PENN AVE. PITTSBURGH, PA.

All sizes up to 3,400 cu. ft. capacity

Meters
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Repairs
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METER REPAIR PARTS

FOR
ALL MAKES — ALL SIZES OF METERS

LARGEST GAS COMPANIES NOW
USING OUR PARTS

SEND FOR OUR CIRCULAR ON METER REPAIR PARTS

SAMPLES AND PRICES
GLADLY SENT

— o —

LAMBERT METER CO.
PLAINFIELD, NEW JERSEY

Atlanta Celebrates 85th Anniversary With Successful Sales Drive

Early and Modern Periods Featured in Display

By
J. H. Reed
Atlanta, Georgia

USING its 85th anniversary as a spring-board from which to conduct a special sale of gas appliances, the Atlanta Gas Light Company recently sold 366 gas ranges in twenty days; increased its sales of gas refrigerators 80% over the same month in 1940; did 20% more business in its water heaters . . . and had the best February sales record in its history.

The Atlanta Gas Light Company received its charter on February 16, 1856, being the oldest corporation in Atlanta and the second oldest in the State of Georgia. Actually, it was in business before that date, gas lights for Atlanta's down-town streets having been lit for the first time on Christmas Day, 1855.

And it is interesting to note that, save for a short time after General Sherman destroyed the plant in 1864, the company has been serving Atlanta ever since.

Now, an 85th anniversary is something worth celebrating, and the Atlanta Gas Light Company decided to celebrate with a sale.

Accordingly, two gas ranges of nationally-known make were selected and offered to the public for $85.00 with the old stove, and every appliance offered by the company, except its gas floor furnaces, was advertised for a standard down payment of 85 cents during the sale!

Next came the question of displays.

To emphasize the 85th anniversary idea and at the same time stress modern gas equipment, the Atlanta Gas Light Company decided to reproduce, so far as possible, a typical office, dining room and kitchen of the period when the company began operations.

To secure authentic reproductions, the company secured the services of Mrs. Wilbur J. Kurtz, one of the

technical directors of "Gone With the Wind," who supervised the construction and furnishing of each room. She also served as official hostess, in a costume of the period, during the sale.

One side of the company's big Peachtree Street display room was then divided into three rooms . . . a typical office of the period, with its high bookkeepers' desk; a typical dining room and a kitchen . . . a kitchen, incidentally, without even a gas range, as gas at that time was used only for lighting purposes.

All of the rooms were lighted by old-fashioned gas jets, in sharp contrast to the space on the opposite side of the display room, with its modern lighting and its array of gas ranges, gas refrigerators, gas water heaters and other gas appliances in ultra-modern settings.

Even the souvenirs given visitors were of a dual nature.

On one ide of the building was an old-fashioned photographer's booth where a photographer, dressed strictly according to the period, took tin-types of visitors.

Atlanta, Georgia, is justly proud of its 85 years of gas service to the public, commencing with street illumination. Reproductions of household settings and equipment and character studies in the costumes of a near-century-ago were featured as well as the well-recognized street lighting standard.

On the other, visitors were presented with an ash tray and asked to write their name in the bottom. Each tray was then permanently gas-fired.

Originally planned for two weeks, public demand for a continuance of the show . . . and sale, . . . was so great that it was continued for another week. And officials estimate that 20,000 people came into the building in that time!

Advertising, too, carried out the 85th anniversary idea.

Advertising consisted of one institutional advertisement and four merchandising advertisements, totalling 344 inches of space, in each of Atlanta's metropolitan dailies.

Type selected for the headlines was similar to that used in 1856, identifying the advertising with the campaign, and each advertisement was designed to tell the story of the company's 85 years of service to Atlanta, induce people to come in and see the unusual displays, and, first, last and always, sell the specials offered.

Window displays carried out the contrast.

On one side was a huge birthday cake bearing 85 gas-jet candles and an old-fashioned gas lamp-post in the center. This was backed by a front of a typical office of the period.

On the other side, a gas refrigerator shown against a modernistic setting.

Every detail was carefully worked out and, as a result of perfect teamwork and timing . . . typical of H. Carl Wolf, president of the Atlanta Gas Light Company and his workers . . . both the show and the sale were a marked success.

85TH ANNIVERSARY
Gas Range Sale
FOR 85 YEARS ATLANTA'S OLDEST CORPORATION YOUR GAS CO.
Because we're 85 years old this month and want our anniversary date to mean something special to you, we've selected two of our leading gas ranges . . . priced them at one dollar for each year of our service to this community . . . and are offering them to you as anniversary specials at $85 (with your old stove). You'll realize what a bargain this is, when we tell you these ranges are regular $120 values.
That isn't all! 85c installs your choice. Both ranges are famous makes . . . one a Roper and one a Magic Chef. They are new 1941 fully insulated heat control models, received just in time for this sale.
We've never offered a value like this before. Don't miss the opportunity to change your old stove during this sale for a modern gas range that will give you the cooking convenience you've dreamed of . . . that will save time and effort . . . that will soon pay for itself in food and fuel saving. See these anniversary specials today. You'll quickly discover what real bargains they are.
SOUVENIRS
Have your picture made in old-fashioned plaster style . . . while you wait.
Write your name in porcelain and see it fired by a gas furnace into one of our souvenir ash trays. Then take it home for your personal use.
See rooms typical of the 90's . . . authentically reproduced under the direction of Mrs. Wilbur G. Kurtz.
Under the direction of Mrs. Wilbur G. Kurtz, we have reproduced on our main sales floor, with authentic furnishings and typical office such as the Gas Company used when it first started serving this community 85 years ago, also a dining room and kitchen of the same period.
These rooms will be on display during our Anniversary Sale, and we believe you will be interested in seeing them. Mrs. Kurtz will be hostess and will be glad to give you special information about the furnishings in the rooms, and about period furnishings of the 90's in general.
$85 WITH YOUR OLD STOVE
85c DOWN
installs your choice. Usual low monthly terms.
A REGULAR $120 VALUE
Built to Roper quality standards, this range has one "Giant-Speed" and three "Speed" top burners all with "high-low" valves . . . full size "3-in-1" super insulated heat controlled oven . . . "E-Z-Roll" broiler with "Enamo-Grill," and popular divided cooking top with folding lift covers complete with minute minder and cookbook set. Full porcelain enameled. Added features for your convenience are a large roll drawer and a storage compartment with swing door
This full-sized all-porcelain enameled Magic Chef range fits flush against the wall. Features that distinguish it are divided cooking top with folding lift covers, super insulated oven, famous Red Wheel oven heat regulator, roll-out broiler and "3-in-1" non-clog top burners guaranteed for life of range. Utility compartments on either side of oven provide an added convenience.
85¢ DOWN . . . during our Anniversary Sale will install any gas range in our entire stock, or any of the following gas appliances: Servel Electrolux refrigerator, automatic water heater, radiant heater, or circulating type heater. The 85c down payment applies during our Anniversary Sale only. So get your modern gas appliances now. Convenient monthly terms make payments easy.
ATLANTA GAS LIGHT COMPANY

Even the advertising in the local press was tuned to the time in the selection of display type. The ranges shown however are ultra modern. Original size of advertisement 6 col. 16 in. high.

Book Review

The Ninth Edition, Crosby-Fiske-Forster Handbook of Fire Protection, Robert S. Moulton, General Editor. National Fire Protection Association, 60 Batterymarch St., Boston, Mass. $4.50 Postpaid.

Of much interest to gas engineers is the New Ninth Edition of the Crosby-Fiske-Forster Handbook of Fire Protection, published by the National Fire Protection Association. Examples of sections of the Handbook which are completely new are: Detailed information concerning the hazards and fire protection of air conditioning systems; an entire chapter relating to mine fires and explosions; a large amount of material about special extinguishing systems; and many other items. In addition, each chapter of the Handbook has undergone numerous revisions and changes since the edition of five years ago. Notable among the changes are: The table of properties of flammable gases and solids, which has been thoroughly revised; the chapter dealing with electricity, which now contains a considerable amount of new information, including the fire hazards of static charges; several chapters relating to automatic sprinkler protection; and all sections of the book which deal with either public or private fire protection. Naturally, all statistics including tables, charts, and diagrams have been brought up-to-date.

The net result of all changes, of all new material, is a completely new and up-to-date Handbook of Fire Protection of 1300 pages, the work of the more than 100 leading authorities in the various branches of the fire and allied professions who have put their knowledge and experience at the disposal of the National Fire Protection Association, publisher of the Handbook.

Of special interest to the gas industry will be those sections which deal with Heating Appliances, Chimneys and Flues; Flammable Liquids (including oil); Gases and Internal Combustion Engines (including city gas, liquified petroleum gases, oxygen, etc.); Painting; Electric Wiring, etc.; Building Construction; Pumps; Tanks and Fire Extinguishers and Extinguishing Systems.

Sales-Technical Sessions at Baltimore Define Future of Industrial Gas

H. C. Wolf
Chairman A.G.A. Industrial and Commercial Gas Section

For its biggest 1941 meeting, industrial gas returned to the city where the first gas company in the United States was established in 1816 and where one of the first industrial gas sales departments in the country was formed—Baltimore. Some 191 registered delegates and approximately 50 visitors participated in the 1941 A.G.A. Conference on Industrial Gas Sales, conducted by the Industrial and Commercial Section of the Association, and held at the Lord Baltimore Hotel, Thursday and Friday, March 13 and 14. The papers, the attendance, the executive interest and the cooperation received from those outside of the Association and its membership, all testified to the pyramiding significance of A.G.A. Industrial Gas Sales Conference since their modest beginning in 1936.

H. Carl Wolf, President of the Atlanta Gas Light Company and Chairman of the A.G.A. Industrial and Commercial Gas Section, called the meeting to order for the first Thursday session. Following a welcome to Baltimore by R. H. Tillman, Manager, New Business Department of Consolidated Gas Electric Light and Power Co. of Baltimore, Carl P. Mann, Manager, Drying Division, The Selas Company, Philadelphia, delivered the first sales-technical paper of the Conference on the subject, "Gas Fuel for Short-Cycle Curing of Industrial Finishes."

Reporting upon the findings of a research investigation sponsored by the A.G.A. Committee on Industrial Gas Research, Mr. Mann concluded that the most economical, flexible and effective method of baking short-cycle industrial finishes is with a combination of radiant and convected heat established by controlled circulation of the products of combustion given off by gas-fired radiant burners of the newer types. This contention was supported by a mass of research data evaluating from different viewpoints the relative merits of baking with: (1) recirculated hot air, (2) gas-fired radiants, and (3) electric near-infra-red-ray lamps.

"There is an industrial market for the gas-fired unit heater, regardless of local costs of competitive fuels, comparative costs of equipment and installation, and the nature and number of plants and factories in your territory," asserted W. N. Blinks, General Gas Light Co., Kalamazoo, Mich., in introducing his discussion of "The Sale and Use of Gas Unit Heaters in Industrial Plants." To substantiate his claim, Mr. Blinks listed field after field for profitable industrial unit heater installations, and offered many suggestions with regard to methods of better adapting gas unit heating to the specific requirements of different types of establishments.

"I believe that furnaces for armament represent over 90 per cent of our present production capacity," noted F. Coleman Starr, Surface Combustion Corporation, Philadelphia, in his analysis of "Use of Gas in the Production of Munitions, Particularly Shells and Guns for Aerial Warfare." He added, "In my particular territory almost 100 per cent of the furnaces we have sold for armament production have been gas-fired . . . that the considered analysis of the customer and ourselves indicated the use of gas." Types of furnaces found suitable for the heat treatment of projectiles, shell cases and cartridge cases, gun barrels, and gun mounts, were described and classified, and it was shown that many of the types were suitable for several important classes of defense production.

Featured speaker at the Thursday Luncheon was Charles M. Cohn, Executive Vice President, Consolidated Gas Electric Light & Power Company of Baltimore, who interpreted "The Industrial Department's Responsibility to Management." In the opinion of this veteran executive

Left to right: F. H. Trembly, Jr., Philadelphia Gas Works Co., Theo. R. McKeldin, Luncheon Speaker, lawyer and politician of national reputation, H. Carl Wolf, President, Atlanta Gas Light Company, Eugene D. Milener, Secretary, Industrial Section, A. G. A.

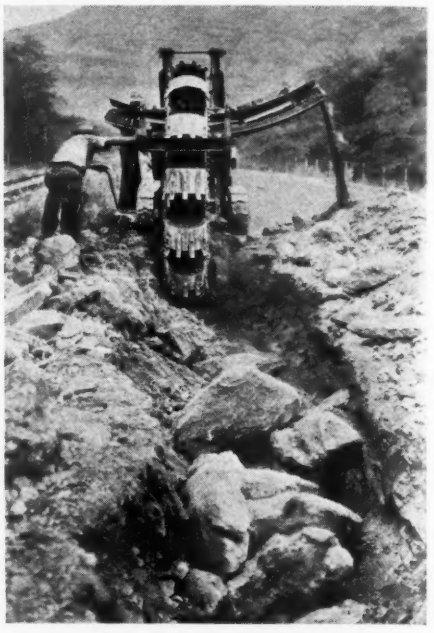
Left to right: C. B. Mershon, Mgr. Industrial Sales, Manufacturers Light & Heat Co., Jas. C. Ayers, Industrial Engr., Manufacturers Light & Heat Co., W. A. Stermer, Industrial Engineer, Manufacturers Light & Heat Co., Washington, Pa. L. G. Waskom, Dallas Gas Co.

The Complete Answer
to Your Gas Line Requirements

The CLEVELAND BABY DIGGER

MODEL 95

Equally Efficient for Long Line Trench or City Distribution



Literally, thousands of miles of completed work have proven the correctness of the "Baby Digger" design. The forerunner of all full-crawler trench excavators, the "Baby Digger" stands supreme as a compact, light weight, easily transported trencher. With it you have the best chance to machine dig your work. Compact, fast, flexible, powerful and with all dead weight eliminated, the "Baby Digger" exactly meets conditions, whether it's a cross country transmission line or a short service extension in the city.

Easy to operate and transport and with the built-in qualifications to resist wear and abuse, the Baby Digger represents the utmost in economy and efficiency and assures maximum machine usage. Only the Baby Digger gives you such power, speed and strength and such a wide digging range in such a small package.

Write today for complete details on these modern most usable "Clevelands."

THE CLEVELAND TRENCHER COMPANY

"Pioneer of the Small Trencher"

20100 ST. CLAIR AVE. CLEVELAND, OHIO

SUPERIOR GAS METERS

For Sound Values and Continuous Operating Economy

Meters for Domestic and Industrial Use. All Sizes 5B to 60C.
Wet Test and Demonstration Meters — Diaphragms —
Service Cleaners — Provers — Meter Repairs

Superior Meters are built to A. G. A. Specifications to provide complete protection against leaks and costly repairs. Write for details and quotations.

SUPERIOR METER COMPANY, INC.

167 41st Street *Brooklyn, N. Y.*

CURRAN-KNOWLES GAS AND COKE OVENS

We welcome your inquiries about gas washing and scrubbing equipment.

THE C. C. CO.'S GAS WASHERS AND SCRUBBERS

are small, and compact units effecting intimate contact between liquid and gas, Employing the Brassert Stationary Disintegrator.

C. C. Co.

REACTIVE COKE

is better for domestic and many metallurgical uses

Strong reactive metallurgical coke is being produced in Curran-Knowles coke ovens from Low Volatile expanding coal WITHOUT BLENDING

CONTRACTORS & ENGINEERS
Coal Carbonizing Company
Bank of Commerce Building St. Louis, Mo.

in a highly industrialized city, it is the responsibility and duty of the industrial gas sales department to: take the initiative in conducting market surveys on a continuous basis, and of reporting regularly to management the data necessary for its subsequent evaluation of potential business, inform management what can and should be accomplished through rate adjustments in the industrial bracket, and to define "terms of service" under which industrial gas should be sold in different fields, develop and carry through promotional methods—advertising, publicity, sales promotion, etc.—even to the extent of recommending tests, researches, and trial installations designed to demonstrate what can be achieved with industrial gas. It is the industrial department's job to keep after management, establish closer contact with management, and supply to management the information on the basis of which it must evaluate industrial business."

Leading off the Thursday Afternoon Session under the gavel of George F. B. Owens, Vice Chairman of the Industrial and Commercial Gas Section, J. Paul Jones, of Consolidated Gas Electric Light and Power Co. of Baltimore, described a new type application of gas to air-conditioned smokehouses.

The new design matches the advantages of the recently introduced steam-heated air-conditioned smokehouses, and offers additional safety, greater cleanliness, temperature and humidity control with resultant shrinkage reductions, more uniform heat distributions, better color and flavor, low maintenance costs, rapid heat recovery for finishing cycles and reduction in sawdust requirements.

Among the most significant information released at the meeting was that presented by Frederic O. Hess, President, The Selas Company, Philadelphia, concerning "Important New Developments in Applying Direct Radiant Gas Heat To Ceramic Firing," and reporting upon the success of a pioneering kiln design utilized at the Lenox Pottery in Trenton, N. J., for firing highest quality bisque. This development, conducted jointly by Lenox, the A.G.A. Committee on Industrial Gas Research, the Public Service Electric and Gas Co., and The Selas Co., offers for the first time successful firing of high-quality ware by direct gas radiant heat at a fuel cost favorably competitive with oil. Newly developed gas-fired refractory radiant burners stud the kiln walls in a carefully worked out pattern, and are responsible not only for exceptionally low fuel consumptions, but for remarkably even temperature distributions, minimum expenses in kiln construction, elimination of all saggers and mufflers, and greater facility of control.

W. N. Blinks, General Gas Light Co. and Frederic O. Hess, Pres., Selas Company.

Above: A New England group. Left to right: R. C. LeMay, Industrial Gas Engineer, Connecticut Light and Power Co., J. W. Harrison, Hartford Gas Co., L. E. Wagner, Providence Gas Co., W. F. Kimball, Industrial Engineer, Cambridge Gas Light Co., Roy E. Wright, General Sales Mgr. New England Gas & Elec. Association, R. D. Hankins, Bridgeport Gas Light Co. Below: Round Table Group at the Industrial Gas Equipment Club sponsored by A.G.A.E.M.

"A Message from the Managing Director" of the American Gas Association was then presented to the Conference by Managing Director Alexander Forward. Major Forward observed that the "base" industrial gas load has increased steadily year-by-year, from a low point in 1932 amounting to 77 per cent of the 1929 figure, to a current level of 90 per cent of that figure. On top of this "base" industrial business is superimposed a large load which reflects fluctuations in business activity, and which has carried the total industrial and commercial gas sales for 1940 to a point 53 per cent above the 1929 figure. The Major cautioned against the installation of "subnormal" equipment during the current war-boom rush. He expressed confidence that a minimum of such "subnormal" installations would be made, and that our industrial load gains as a result of defense activity will be thus protected to a maximum against peacetime curtailments.

A symposium on "Up-To-Date Cooperative Sales Methods Between Industrial Departments and Equipment Manufacturers" constituted a novel innovation to A.G.A. industrial meetings, and, under the leadership of B. H. Gardner, Vice President, Columbia Engineering Corp., Co-

lumbus, Ohio, brought expressions of opinion from Charles F. Henness, Public Service Co. of Northern Illinois, Chicago; Edward W. Mears, Mears-Kane-Ofeldt, Inc., Philadelphia; Carroll B. Mershon, The Manufacturers Light & Heat Co., Pittsburgh; O. N. Sellers, Sellers Engineering Co., Chicago; and E. L. Stauffer, South Carolina Power Co., Charleston. Mr. Henness does not believe the utility should sell or take commission on equipment, but should cooperate with the manufacturer as much as possible . . . that new gas-designed equipment should get the preference over conversion apparatus . . . and that better means of disseminating knowledge regarding new and improved equipment and applications are needed. Mr. Mears feels that equipment manufacturer representatives should call more regularly on gas company salesmen . . . should know gas company policies better . . . that more utility-sponsored advertising in the industrial bracket would be beneficial. Mr. Mershon believes the industrial gas engineer should have a better knowledge of the user's requirements and the various types of equipment suitable therefor . . . that cooperation between the industrial gas man and the equipment manufacturer should extend beyond the "first-call" and "tip-off" stages throughout the complete negotiation with the prospect. . . . Mr. Sellers was of the opinion that prospect lists submitted to manufacturers by utilities should be more carefully investigated with regard to credit ratings and bonafide interest in new equipment . . . that all manufacturers of equipment should immediately notify utilities when competitive fuels enter the picture. Mr. Stauffer expressed the opinion that small equipment should be more aggressively promoted and standard equipment recommended wherever possible . . . that the utility should maintain a first-class service department for installed equipment.

To bring the industrial gas fraternity up-to-date on latest equipment developments, a six-way symposium of "Five-Minute Reports on Outstanding 1940-41 Industrial Gas Equipment Developments" opened the Friday Morning Session. Elmer B. Dunkak, Vice President, The C. M. Kemp Mfg. Co., Baltimore, described progress in increasing the temperature range of immersion heating applications by at least 300°F, so that the upper practical limit today stands at 1500°F. Slade B. Gamble, National Machine Works, Chicago, explained new graphical methods of determining proper burner sizes and proportional mixer specifications. Herman Gehnrich, Gehnrich & Gehnrich, Inc., Woodside, L. I., devoted his time to observations on the expanding market for convection heating up to 1000°F, covering brass shell annealing, magnesium and aluminum alloy castings ageing, and the drying and baking of cold-molded insulation parts. Porter Hurd, Philadelphia, representing P. C. Osterman, American Gas Furnace Company, Elizabeth, N. J., described the conveniences of a new A.G.F. bell-oven furnace for all types of atmosphere heat treating. O. N. Sellers, Sellers Engineering Co., Chicago, analyzed the untapped possibilities of rubber mold heating by water under high pressure rather than by steam, noting the fuel economies, higher heating rates, reduced rejections and minimized danger resulting therefrom. Alvin M. Stock, The Partlow Corp., New York, discussed three new-type controls for special uses, recently added to his company's line.

Fundamental research data bearing upon the combustion of gas with a deficiency of air, upon atmospheric burner design, and upon methods of calculating flue losses from industrial atmosphere furnaces, were presented by William R. Teller, Chief Testing Engineer, A.G.A. Testing Laboratories, Cleveland, Ohio.

Contending that "barring occasional special meetings, demonstrations, floor displays, and stunts, the industrial gas sales department's only steady reliable way of advertising specifically to the industrial and commercial customers and prospects in its territory, is through the machinery provided by Uncle Sam and the Postmaster General," Harry W. Smith, Jr., Director, Industrial Gas Publicity, American Gas Association, classified into ten types the direct-by-mail techniques employed today by gas utility companies in behalf of non-residential sales. Actual examples of work in each bracket were presented on handsome displays, along with data secured from the user companies with regard to the conditions under which each type of direct-by-mail is especially helpful, what the industrial and commercial gas sales department can do in planning and preparing each type so that it has greatest sales effect, what follow-up is advisable, what, in general, the type of direct-by-mail in question costs, and what results may be expected.

REED'S 4 WHEEL
Razor Blade Pipe Cutters

IDEAL FOR ANY TRENCH OR OTHER CLOSE QUARTER JOBS

$4.67 F. O. B. ERIE

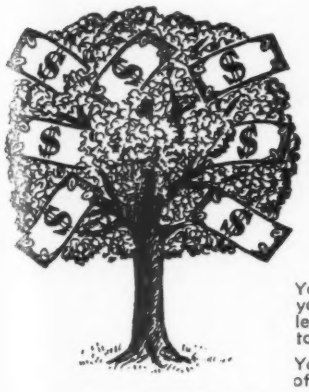
Capacity
½" to 2"
Weight 5 lbs.

The REED FOUR WHEEL Cutter operates with a short back and forth motion through only one-third of a circle. Each of the four wheels exerts the same pressure on the pipe, and all 4 therefore cut evenly and completely through the pipe at the same time.

Equipped with Reed special alloy RAZOR BLADE Wheels, which cut with remarkable ease, leave little burr, and have a long life of useful service.

A sample cutter for test and trial may be ordered on memorandum invoice, to be paid for if retained or returned for credit if unsatisfactory. Try it once, and you will use no other.

REED MFG. COMPANY
1436 W. 8th Street • ERIE, PA.



Sure, Money Grows On Trees!

(AND HERE'S THE PROOF)

You can't reach out and pluck it—but you *can* put it on the profit side of your ledger. It's real money, the kind you use to buy bread, tobacco and chewing gum.

You'll agree that trees are a good source of income after you have used the . . .

HEATH Vegetation Method TO DETECT GAS LEAKS

Among prominent companies now finding the HEATH Vegetation Method of detecting gas leaks to be profitable are the following:

METROPOLITAN UTILITIES DISTRICT, OMAHA
DETROIT EDISON CO.
MINNEAPOLIS GAS LIGHT CO.
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CENTRAL HUDSON GAS & ELECTRIC CORP.
JERSEY CENTRAL POWER & LIGHT CO.
COLUMBIA GAS & ELECTRIC CORP.
BOSTON CONSOLIDATED GAS CO.

Our 5-Point Check-up eliminates gas wastes and blacks out damage claims through: 1. Spotting and recording gas-affected foliage before the damage is done. 2. Giving protection against possible claims in "non-gas" cases. 3. Locating gas leaks many months ahead of other methods. 4. Furnishing data for claim cases and placing at your disposal an expert for court cases. 5. Cutting costs—even lower than they are at present.

HEATH TREE SERVICE INC.

572 WASHINGTON STREET
WELLESLEY, MASS.
Other Offices in the Mid-West.

"THE PERSONAL TREE SERVICE"

WORLD'S GREATEST all around ELECTRIC TOOL

DRILLS—GRINDS—SANDS
SAWS—POLISHES
SHARPENS—CARVES

The new WHIZ ELECTRIC TOOL is the handiest power tool ever made. A rugged tool for power and precision work. Drills through ¼ inch iron plate in 42 seconds or engraves intricate designs. Handles any material: Metals—Woods—Alloys—Plastics—Glass—Steel—etc. Saves time. Eliminates labor. Plug into any socket AC or DC, 110 volts. Chuck ¼ inch capacity. Ball bearing thrust. Powerful, triple-geared motor. STANDARD MODEL, with Normal Speed (uses 200 different accessories, instantly interchangeable). **Price Only $7.95.**

The only DRILL-TOOL with a full year's guarantee

FREE Accessory outfit (Value $2) includes set of drills, mounted 1½ inch grinder, sanding discs, cutting wheels, mounted brush, polishing wheel, carving burr, etc. FREE with each tool ordered NOW. We pay postage.

10-DAY TRIAL—MONEY BACK GUARANTEE

PARAMOUNT PRODUCTS CO.

Dept. 4AGJ 545 Fifth Ave. New York, N. Y.

Purification COSTS LESS THIS WAY

Savings assured under cost guarantee plan

LAVINO ACTIVATED OXIDE

Supplied in unmixed form . . . ready for mixing with your own carrier . . . LAVINO "ACTIVATED" OXIDE is readily adaptable to the needs of your plant, whatever its size or requirements.

Not merely a "satisfactory" purifying medium by virtue of incidental properties, it is a material made specifically for maximum H_2S removal. As such, its practical capacity and activity are controlled factors. And, it offers maximum activity for trace removal and maximum shock resistance. Contains 70% Fe_2O_3 as received, approximately 10% moisture.

LAVINO ACTIVATED SPONGE

is furnished ready mixed, carefully coated on large, tough, specially selected hardwood shavings.

Both are made in the U. S. and are disinfected by a special Lavino process to minimize the formation of mold or other fungous growth.

Investigate now.
There's no obligation.
Just write _____

E.J. LAVINO and COMPANY

LAVINO "ACTIVATED" OXIDES

1528 WALNUT STREET

PHILADELPHIA, PA.

Cooperation in Action

(Continued from page 14)

erate on a basis whereby we promise to achieve any particular predetermined results. In principle and in effect, our Association simply offers to our members an educational opportunity and their utilization of that opportunity may and does vary somewhat from time to time in the details of its achievement. We simply know that our member companies have certain problems regarding which their representatives seek as much light as possible. The amount of light which any given company representative may obtain will vary from that which many other company representatives obtain—even on the same problem—because the background and experience in the different companies naturally vary.

We do not always face exactly the same problems at exactly the same time nor do we always face the same problems in exactly the same ways. This condition in part accounts for the fact that there is a goodly variety in the various Association activities on the theory that somewhere along the line and at several places along the line each member will find light which he is seeking on one or another of his operating problems.

This theory might be likened to the editorial policy which has been found sound in the publication field to the effect that a variety of contents will offer some items of interest to all readers although just which readers will be interested in just which parts of the contents is substantially a matter of speculation.

The basic educational nature of our Association's activities is particularly pertinent and appropriate to an Association such as ours which contains many elements of a professional society because of the large number of engineers with somewhat different educational backgrounds and the many accountants whose efforts contribute to the progress of our members. While the daily work and problems of our members in all of the various phases of the industry receive appropriate recognition in our Association's activities, the work of our members, which is of a professional nature, has received our most careful planning. In accordance with the traditions of any professional society, we make available for further and later study in "The New England Gas News" the papers which are presented before our various meetings.

Two of our Divisions are strongly technical in their activities — Operating and Accounting—two of our Divisions are non-technical in their activities—Sales and Manufacturers —and our Industrial Division is both technical and non-technical in its activities, as it combines engineering problems with the sales approach.

The Staff

A word pertaining to our excellent staff and the work it does should be included in this picture of our Association. Mr. Belden, Miss Kenney and the other young ladies of our office force are capable, loyal and faithful employees of the Association. They carry through to a successful conclusion a tremendous amount of careful planning and also of detail work. It is a pleasure for me to acknowledge this work publicly in this paper and to thank them for their earnest zeal in helping to carry out the Association's broad program of activities.

In my year as President, I have naturally come to see the Association activities as a whole and in detail more closely than almost any one else sees them except the person who is honored with the office of President. I am convinced today more than ever before that our Association is founded on sound lines, that we do a most constructive educational work regarding many important problems in our industry, that we have a remarkably fine working cooperation among our members and that those who have given generously of their time during the past year have learned many helpful things which they could apply in their own companies to advantage—and which, in many instances, they have applied.

I will conclude my remarks with this thought "We have all done much to help polish each other vocationally; we are all indebted to each other for this timely help and we all thank each other. I think we have done a fine job together."

Domestic Sales

(Continued from page 27)

5c per hundred cu. ft. for all over 10,000 cu. ft.

One year's contract and $1.00 per month minimum bill.

We believe this optional rate is very vital to our type of operation and should break at 5,000 ft. in order to secure refrigerator and water heater load. This rate is one of our most important sales tools.

Just a few words on sales meetings. I wish to state that our sales meetings are conducted mainly on the "skull practice and quiz program ideas."

Most companies at the present time have a coverage of 3,000 to 5,000 meters per domestic salesman. In such cases, very little overhead, if any, would be necessary if the present sales organization were doubled. The total cost of our new business program (including home service, house heating, industrial, commercial, etc.) has been increased approximately $12,000.00 comparing 1940 with 1936. Our total New Business cost in 1936 was $3.67 per meter and $3.76 for 1940.

Operating Net Revenue, before taxes, on a comparable basis (1940-1936) has been increased approximately 41% and it appears now that for the twelve months ending December, 1941, that this will be increased to 70%. I, therefore, sincerely recommend that by a similar plan, you should be able to increase your domestic sales.

National Supply Co. Appoints F. W. Morris to Sales Division

Appointment of Mr. F. W. Morris as Sales Manager for the Dayton Coupling Division, has been announced by The National Supply Co.

Mr. Morris has been associated with the Spang-Chalfant Tubular Sales Division since July 15, 1925, and for the past three years, has been located in Philadelphia, Pa., and will now headquarter at Pittsburgh, Pa. The plant for Dayton Couplings is at Carnegie, Pa.

The *Test* of REPETITION

A STABLE & PROGRESSIVE industry operates on a stable & progressive policy. *"I know of no way of judging the future but by the past,"* said Patrick Henry. In 1940 GPM shipped 1,750,000 bushels of iron boring oxide sponge of which 1,500,000 were repeat orders.

Gas Purifying Materials Company

Long Island City, N. Y.

IRON HYDROXIDE GPM

Meeting Peak Loads

(Continued from page 18)

probably will have little application in the manufactured gas industry in meeting peak loads, even if the process proves successful. However, it may have some application for this purpose in the natural gas industry.

3-Minute Operating Cycle

Shortening the operating cycle to 3 minutes, is one of the simplest and most effective ways of increasing the capacity of a water gas set in many situations.

Chart 4 shows results secured by two companies which have done this. (See Chart page 18.)

The added capacity has been secured without apparent increase in the cost of manufacturing materials and without indication that maintenance costs have been or eventually would be raised.

In order to use a short cycle successfully the valves on the set must operate quickly. Hydraulic cylinders of proper size, pipe lines that are sufficiently large and a hydraulic pressure generally of at least 80 lbs. per sq. in. are all necessary. One company is reported to be working to reduce the operating time of the three-way back-run valve from 3 seconds to 2 seconds, and believes even that small improvement worth trying to secure. Years ago I tried to reduce the cycle on a completely hand operated set from 7 to 5 minutes, but it was found that the loss in time in operating the valves was such that better results could be obtained with the longer cycle.

On sets connected to waste heat boilers and equipped to use a valve between the superheater and the boiler in regular operation, a 3 minute cycle will generally not be desirable, since the valve just mentioned is large and necessarily moves slowly. However, if the valve used is on the outlet of the boiler, a 3 minute cycle may be desirable.

Emergency Capacity Operation

One company which has very high peak loads is reported to have devised a method of emergency capacity operation which consists in reforming heavy oil in the generator to the extent of about 35 per cent and making long blow-runs. This method of operation raises the specific gravity of the gas; so to compensate for the change the heating value is also increased by the use of more enriching oil, which in itself gives more capacity. It is said that capacities as high as 300,000 cubic feet per hour have been secured from an 11-foot set.

Such operation requires skillful technical control to keep a proper balance between specific gravity and heating value. This subject is discussed from a theoretical standpoint at page 72 in "Fuel Flue Gases," published by the American Gas Association. Mr. Louis Shnidman of Rochester, N. Y., described a practical control instrument for operations such as this before the American Gas Association Annual Convention last year.

High Blast Pressures, Etc.

The use of higher blast pressures and blasitng rates is a well known way of increasing capacity. Blast pressures of 50 to 60 inches are usual today; and within reasonable limits the higher capacity is generally accompanied by some improvement in fuel and oil efficiencies.

The replacement of small connections and stack valves on old sets will frequently pay handsome returns. A pressure survey taken on a set during the blasting period is often very revealing. Presures should be taken at the top and bottom of each shell, those at two adjacent points always being taken at the same time in order to establish the loss through a particular shell or connection.

Blast mains of inadequate size are sometimes the cause of reduced set capacity and wasted power or steam for blower operation.

Reforming Tar

While not important from the standpoint of capacity, it is of interest that tar is being reformed successfully in water gas sets. At the January Operating Division Meeting of The New England Gas Association, Mr. L. E. Dequine described the use of a tar emulsion at Long Branch, N. J. He reported using about .2 gallons of tar per M and found its value to be 4.06c per gallon.

At Poughkeepsie, N. Y. about .4 gallons per M of dry tar at about 350° is regularly reformed. The equipment used consists of a regular Anthony single nozzle oil spray provided with steam purge and inserted through the cone of the generator. A gallon of tar is stated to be equivalent to 7 to 10 lbs. of generator fuel, probably more nearly the lower figure.

Coal and Coke Oven Gas Developments

In horizontal retort coal gas plants the injection of oil onto the hot coke toward the end of the carbonizing period is reported to have given capacity increases of as much as 70 per cent.

Since the first of March patents have been issued covering new designs of broad ovens based on principles that seem not to be experimental but to have been used in the past in the construction of standard by-product coke ovens. The heating systems of these new type ovens should insure uniform heating of the charge; and they should therefore produce a uniform quality of coke and high yields of by-products.

It is claimed that coke oven gas, producer gas, blast furnace gas or lean gas may be used for under firing. It is further claimed that this oven may be underfired with fuel oil or tar with eminently satisfactory results. Of possible special interest is the fact that these ovens should be capable of coking all types of coals, including swelling coals. A company is said to have been incorporated for the engineering design and construction of these ovens.

Fin Tube Condenser

The fin tube has recently been applied to gas condensers; and several installations have been made, one at Worcester, Mass. As might be expected, trouble has been experienced with tar partially filling the space between the fins, and cutting down the rate of heat transfer. It is quite probable, however, that the design can be altered or other means found to partially eliminate this difficulty. Compared with the conventional gas condenser of equal capacity the fin-tube condenser is very small indeed and its cost only about one half as great. Such condensers are regularly used in the oil industry; and while they are still in the development stage for gas works use, they should not be overlooked. They fit into the picture of low investment cost, desirable to meet our declining plant load factors.

Centrifugal exhausters have been used with satisfaction for many years in some places, and cost far less than the more usual rotary type. In addition, they are fairly efficient tar extractors.

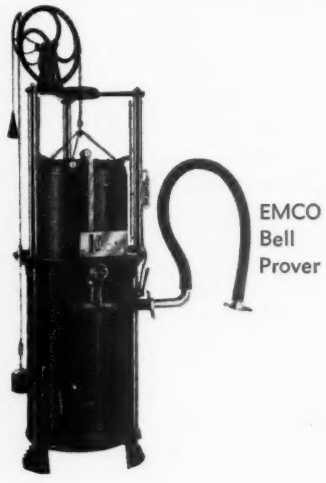
Thus far the problem of handling peak manufacturing plant loads has generally not been acute. Each company has met it largely in its own way. But the time is ripe for more specific study of this subject to the end that we may be capable of handling more effectively and economically the high peaks from the large volume of gas house heating potentially available.

New Equipment

EMCO Bell Prover

The newly designed Emco Type 41 Bell Prover is said to provide a greatly refined mechanism of this type with many innovations and attachments to facilitate the proving operation.

Among the features claimed by the manufacturer are the following:



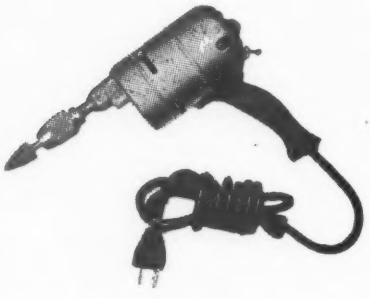
The bell is accurately guided at both top and bottom by friction-free rollers. A steel cable controlled counter balance is used to reduce friction. Three point adjustable bell suspension permits accurate bell alignment. Three, dial type thermometers are provided to record (1) temperature of the atmospheric air (2) temperature of the air in the bell and (3) temperature of the oil seal of the bell. Large airways and streamlined fittings provide high capacity with a minimum change in pressure. There is a large, plainly marked straight scale with "sped-up" magnified scale at the main divisions to facilitate close reading.

This Bell Prover as well as other meter testing equipment is described in bulletin #1066. For a copy write the Pittsburgh Equitable Meter Company, 400 N. Lexington Avenue, Pittsburgh, Penna.

All Purpose Electric Tool

With the symbolic title "Whiz" a versatile electric tool for shop and general use is shown below. Weighing less than 3½ pounds it operates on any 110 volt circuit, A.C. or D.C., and is provided with a toggle switch operated by the hand which holds the tool.

The many accessories for the three-jaw chuck include drills (up to ¼"), grinding wheels, wire brushes, sanders and buffers.



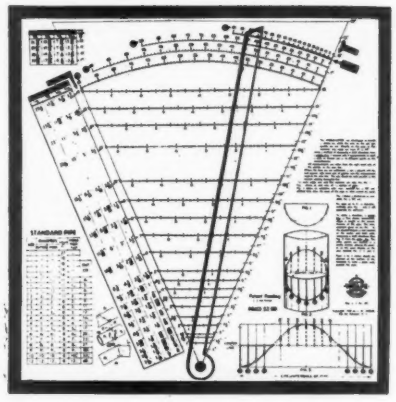
"Whiz" Electric Tool

Used on hard or soft metals, plastics, wood and other materials. The claim is made that it will drill a hole through a ¼" iron plate in 42 seconds.

Full description in Bulletin J, issued by Paramount Products Co., 545 Fifth Ave., New York.

Wolfe Angle Meter

Designed to enable the man on the job to lay out directly on pipe or flat material any angle cut from 0° to 90°, in steps of 1 degree on diameters from 1" to 20", this device is direct reading and saves calculations.



The chart is mounted on stiff board with leatherette backing. Measures 12" by 4½" when folded with a three way perpendicular fold, so as to fit in the pocket. The indicating arm shown is of substantial transparent plastic.

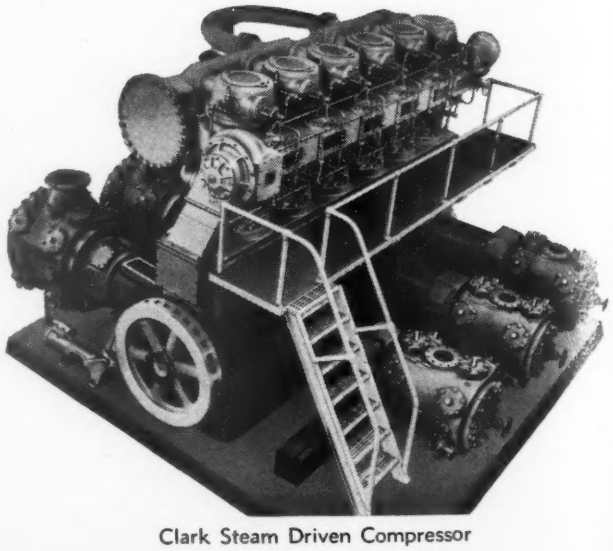
Complete directions for use are printed on the chart.

Descriptive folder available through Interstate Sales Co., 1121 Broadway, New York.

Clark Steam Driven "Angle" Compressor

Due to the need in the industrial, chemical and petroleum fields for large size steam driven compressors, Clark Bros. Co., Inc., of Olean, New York, have developed, based on their right angle design of gas engine driven compressor, a line of steam engine driven "Angle" compressors which can be furnished in sizes from 600 to 4000 H.P. The new compressors have three to six power cylinders and a corresponding number of compressor cylinders in practically any arrangement desired.

The power ends of these units are equipped with Unaflow steam cylinders and are noted for their economical operation. The particular features of this compressor are small floor space requirements, low foundation and building costs, economical steam rates, flexibility and minimum maintenance costs due to the smallness of the parts.

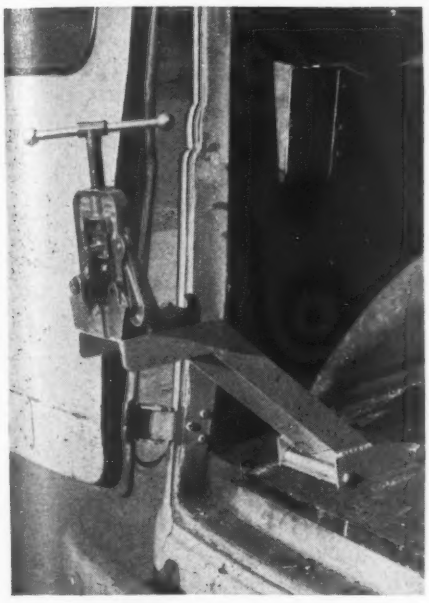


Clark Steam Driven Compressor

and Appliances

Folding Vise Bracket

The "Jiffyon" folding and removable vise bracket is easily attached to the floor of a truck and can be used for mounting either a pipe or machinist's vise.



Jiffyon Vise Bracket

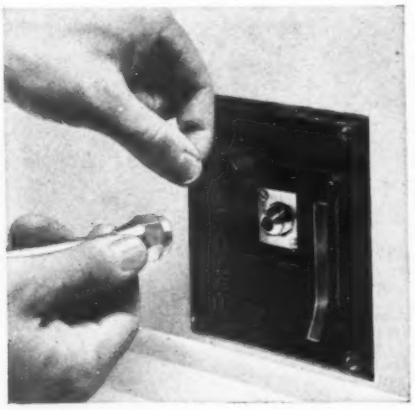
When in working position it provides rigid support for threading, filing, sawing and other heavy work. The bracket has been especially designed to reduce working effort by locating the vise at a convenient height and providing ample room for the use of large wrenches, pipe threading tools, pipe cutters, etc.

For further information and prices write the Jiffyon Mfg. Co., 1752 South Taylor Rd., Cleveland Heights, Ohio.

Wall Connection for Gas

A combination gas outlet box and safety shut-off valve, which is built into the wall is now on the market. This unit which is known as the Gas-o-let, is designed to take the place of the old-fashioned, protruding gas valve. It makes it possible to connect up space heaters and other gas appliances in a way similar to the plugging in of electrical devices. A patented locking device prevents the gas from being turned on unless the appliance is connected.

Its molded plastic cover plate is available in a choice of two colors —ivory or walnut—to fit unobtrusively into any room or color scheme and it is designed to be a permanent part of the piping system. A substantial steel outlet box houses the forged brass valve, which has A.G.A. approval.

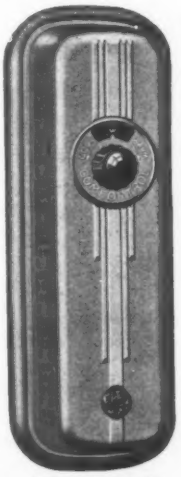


Gas-o-let Outlet

Made by Imperial Brass Manufacturing Company, 1200 West Harrison Street, Chicago.

Friez Comfortrol

Julien P. Friez & Sons, Baltimore, Maryland, announces an improved unit for effective temperature control.



"Comfortrol"

It is a humidity-the point of dry-bulb control is constantly and automatically varied to suit the existing relative humidity.

The Comfortrol is used for homes, theatres, hotels, compensated thermostat incorporating a Friez patented multiple human hair element coupled to a bimetallic temperature element in such a way that schools, offices and on other applications where control in terms of body sensitivity is necessary or desirable. It is suitable for use with all types of heating and cooling equipment, and operates on either line or low voltage.

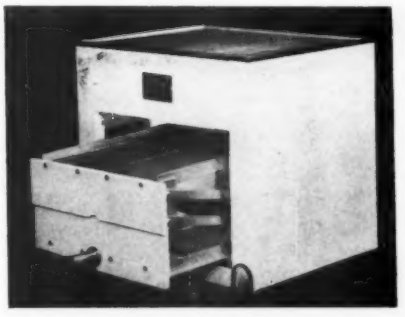
Counter Cooking Equipment

To meet the need of luncheonettes, bars and hotels for compact and efficient gas-fired counter-equipment, the "Counter-Speed Jr." models, which broil, barbecue, roast, fry and toast, all on one machine have been devised.

These broilers, which effect saving in space and initial equipment cost, are claimed to reduce gas consumption by more than 50 per cent. All cooking operations are centered around a single gas burner. Liberal insulation and baffling cut heat loss and the patented ceramic-radiant unit uses less than 30 cu. ft of gas per hour.

Tests under actual operating conditions have shown that these Counter-Speed juniors produce the same high speed cooking results as the widely-used Standard and Senior models of the same manufacturer.

These units are available in stainless steel or any enamel finish, and come in two types: The Counter Broiler, Jr., which combines griddle and adjustable broiling and toasting rack; and the Roto-Jr. which has, in addition, the automatic self-basting roto-spit correctly timed for roasting and barbecueing meats and fowls. Cooking area of each model is 410 square inches. Broilers overall measure 18 wide by 15 deep x 17½ high.

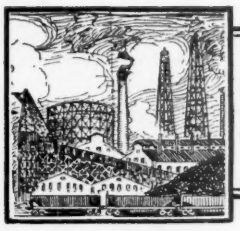


Counter-Speed Broiler Jr.

For further information write Masterchef Products, 509 5th Ave., New York City.

A Correction

In the description of the Heil Air Conditioning Unit which appeared in this Department in January, it was stated that this unit had A.G.A. approval. Later information reveals that final approval had not been granted at that time.



News of the Gas Industry

The 18th Annual Distribution Conference to be Held April 21-23

The Eighteenth Annual Distribution Conference of the Technical Section A.G.A. will be held at the Hotel William Penn, Pittsburgh, Pa., April 21, 22 and 23.

The First Conference on the Operation of Public Utility Motor Vehicles will be held conjointly at the same hotel, April 21 and 22 next.

The Program Committees, under the direction of the respective Chairman: L. W. Tuttle, Gas Engineer, Public Service Company of Northern Illinois, Oak Park, Illinois, and R. H. Clark, General Superintendent of Transportation, Consolidated Edison Company of New York, Inc., New York, N. Y., have secured speakers and papers on timely subjects.

The Distribution Conference will be addressed by Clifford E. Paige, President of The Brooklyn Union Gas Company, Brooklyn, N. Y. Distribution Committees will report progress in their work and papers will be presented on meters; cast iron pipe standards; appliance servicing; pipe joints and pipe materials; pipe coatings and corrosion; new devices; street openings, etc. Economies of motor vehicle operation, body design, shop methods, etc., are among the subjects to be considered at the Motor Vehicles meetings.

Sponsors will relate activities in carrying out special assignments that include some tough every-day distribution problems.

Informative and interesting inspection trips are being planned, including one through the Mellon Institute.

Round Table Luncheon Conferences are an important feature of the occasion.

An innovation will be a joint luncheon of the Distribution and Motor Vehicles delegates, to be held on Monday, April 21. President T. J. Strickler will address the delegates of both Conferences, and E. P. Durfee of the Consolidated Edison Company of New York, Inc., will speak on national defense.

Maryland Utilities Association

The Spring Meeting of The Maryland Utilities Association will be held at the Lord Baltimore Hotel, Baltimore, Maryland, on April 18. In the morning there will be separate meetings of the Gas, Electric, and Transportation Groups addressed by speakers from within the industries on important and timely subjects. In the afternoon there will be a combined session featuring discussions by speakers of national reputation on topics of current interest.

Gas Refrigeration Campaign

Far-reaching sales opportunities for the gas industry are outlined in the third quarter portfolio issued by the American Gas Association Refrigeration Committee entitled "The American Way," which covers the April, May and June period of the current twelve-month gas refrigeration campaign sponsored by the Committee.

Record-breaking registrations for companies, salesmen and meters, were reported by John W. West, Jr., secretary of the Committee, and secretary of the Residential Section of the American Gas Association. Mr. West said that for the past five months ending March 1, company registrations reached 554, a gain of 136 companies over that of previous years. Registered meters reached 13,058,108 compared to the previous record of 11,792,011. More than 4,000 salesmen have been registered exceeding the high mark of last year by more than 500.

During this quarter, several thousand dollars will be distributed to more than 200 leading salesmen who pace their divisions in gas refrigerator sales. Cash awards are given for leadership in each month, and for the full quarter.

A thrill-packed trip to the famed resort of Miami, Fla. with an optional trip to either picturesque Nassau, capital of the Bahamas, or to Havana await the winners of the "Servel Annual Best Performance" all-expense honor trips awarded by the Committee in its 1941 twelve-month sales campaign.

B. T. Franck, chairman of the Committee and vice-president of the Milwaukee Gas Light Co., has announced that the number of salesmen who are to make the trip would be doubled over last year, thus making 12 salesmen in addition to the 35 company representatives who will enjoy this trip next October 23, when the American Gas Association convention closes in Atlantic City.

Gas Appliance Exhibit Will Not Be Conducted This Year

The Board of Directors of the Association of Gas Appliance and Equipment Manufacturers, at their meeting on March 18, having given every due consideration to present conditions and to the trends as they may affect general business, resolved that it is inadvisable to hold an exhibition of gas appliances and equipment this year in conjunction with the American Gas Association Convention.

The American Gas Association concurred in this decision at their Executive Board meeting on March 19.

Three Day Course for Gas Measurement Men at University of Oklahoma April 15-17

The purpose of the Southwestern Gas Measurement Short Course is to provide an opportunity for individuals in the industry to study together the common problems pertaining to the measurement and regulation of gas so that each may become better qualified in the performance of his individual duties.

The program for the seventeenth annual Short Course has been developed from the successful programs of the past years, some variation in schedule having been made to facilitate the arrangement of classes and to permit the inclusion of additional subjects. The General Committee will appreciate constructive criticism and suggestions regarding the program.

All sessions are to be held in the College of Engineering Building: general sessions will be held each morning in the Auditorium; and classes dealing with special subjects and equipment will be conducted during the afternoons in the rooms indicated in the program. The speakers and instructors for the sessions and classes of the Short Course are members of the faculty of the University's College of Engineering, representatives of the gas and oil industry, engineers of equipment manufacturers and others directly interested in the measurement and regulation of gas.

Rockwell Elected to National Committee on Business Welfare

Colonel W. F. Rockwell, President of the Pittsburgh Equitable Meter Co.-Merco Nordstrom Valve Co., has been elected to serve on the National Committee on Business Welfare. This committee has been established by the Chamber of Commerce of the United States to further the aims of the National Chamber through many broad objectives designed to solve serious problems affecting business and the general welfare.

Through his close contact as a director and an officer in several large companies whose interests are widely diversified, Colonel Rockwell is in a position to give much valuable assistance to the Committee in solving the important business problems of today.

1941 Convention Missouri Association of Public Utilities

Harry Hancock, of New York City, Chairman of the Natural Gas Section, American Gas Association, will be one of the speakers at the annual convention of the Missouri Association of Public Utilities, April 23, 24 and 25, in Excelsior Springs, Mo. He will be introduced by Maj. T. J. Strickler, President of the American Gas Association.

Other speakers will be: Dr. James S. Thomas, President, Chrysler Institute of Engineering; J. Raymond Schutz, Indianapolis, Ind., President, Standard Life Insurance Company; J. H. Warden, Tulsa, Okla., General Sales Manager, Oklahoma Natural Gas Company; L. A. Hawkins, Schenectady, N. Y., Executive Engineer, Research Laboratory, General Electric Company; P. N. Bushnell, St. Louis, Mo., Safety Director, Missouri Portland Cement Company; M. W. Myers, Kansas City, Mo., Supervising Engineer, Travelers Insurance Company.

President Ben C. Adams, Kansas City, Mo., will preside at the business sessions, and will be host to all available past presidents of the Association at a Get-Acquainted Luncheon, April 24. The past presidents and the present officers will be seated at the head table as guests of honor.

E. H. Lewis, a past president of the Association, will act as Chairman of the Open Forum for the discussion of timely problems, and questions from the floor, on the afternoon of April 24. The subjects to be discussed are: "General Operating Problems" and "Business Development and Customer Interest."

Fourteen young women and young men from seven electric and gas companies will take part in the annual Speaking Contest on the evening of April 23. Their subjects will be: For women, "Does the Utility Customer Get His Money's Worth?"; for men, "The Utilities' Part in National Defense."

Pacific States Record Notable Increase in Appliance Sales

The sale of gas appliances in the Pacific Coast states increased substantially in all classifications. Gas ranges increased approximately 14 per cent during 1940 over 1939; gas water heaters 21 per cent, central heating jobs 6 per cent and space heaters including floor furnaces 11 per cent. Most of the gains were recorded in California and Arizona, although the northwest held about even in ranges and water heaters and gained 14 per cent in heating sales. While these percentages are derived from a substantial cross section of the industry any estimate of total unit sales in the area is very much of a guess. Such a guess for 1940 is 200,000 gas ranges; 190,000 water heaters; 32,000 gas furnaces and boilers; and 300,000 floor furnaces and miscellaneous space heaters.

CONVENTION CALENDAR

April

9-10 *Fourth Annual Midwest Power Conference,* Palmer House, Chicago.

14-16 *Mid-West Gas Association,* Hotel Nicollet, Minneapolis, Minn.

15-17 *Southwestern Gas Measurement Short Course,* University of Oklahoma, Norman, Okla.

18 *Maryland Utilities Assn.,* Lord Baltimore Hotel, Baltimore.

21-22 *Gas Meters Association of Florida and South Georgia,* Hollywood, Fla.

21-23 *A. G. A. Distribution Conference,* Pittsburgh, Pa.

23-25 *Missouri Assn. of Public Utilities,* Elms Hotel, Excelsior Springs, Mo.

24-25 *A. G. A. Hotel, Restaurant and Commercial Sales Conference,* Chicago, Ill.

May

5-8 *A. G. A. Natural Gas Section Convention,* Adolphus and Baker Hotels, Dallas, Texas.

12-14 *Pennsylvania Gas Association,* Skytop, Pa.

19-21 *A. G. A. Production and Chemical Conference,* New York, N. Y.

20-21 *Canadian Gas Association,* Hamilton, Ontario.

22-23 *Natural Gas and Petroleum Association of Canada,* Hamilton, Ontario.

June

3-5 *Annual Convention A. G. A. E. M.,* Ambassador Hotel, Los Angeles, Cal.

9-10 *Northwest Conference Pac. Coast Gas Assn.,* Portland, Ore.

30 to July 2 *Michigan Gas Assn.,* Grand Hotel, Mackinac Island.

September

8-10 *Mid-West Gas School and Conference,* Ames, Iowa.

10-12 *Pacific Coast Gas Assn.* Annual Convention, Del Monte, Calif., Hotel Del Monte.

11-12 *Empire State Gas & Elec. Assn.,* Saranac Inn, New York.

October

6-10 *National Safety Congress and Exposition,* Chicago, Ill.

20-24 *American Gas Assn. 25th Annual Convention,* Atlantic City, N. J.

Western Metal Congress

Latest industrial appliances for heat treating and space heating by gas will be given complete demonstrations during the Western Metal Congress, to be held May 19 to 23 in Los Angeles, Calif.

E. M. de Remer and Frank Weiss, of Southern California Gas Co., and Charles L. Ferry, of Southern Counties Gas Co., will be in charge of the display, which will occupy 3,000 square feet in Pan-Pacific Auditorium.

At the same time, the application of gas in heat treatment of metals will be a subject for much scientific discussion in the Congress sessions, which will be held both in the auditorium and the Biltmore Hotel.

The Congress, which will be held for the fourth time on the Pacific Coast, will be presented by the American Society for Metals, and 20 other co-operating technical societies, including the Pacific Coast Gas Association, Liquefied Petroleum Gas Association and California Gas and Oil Association.

The demonstration also is being sponsored directly by American Gas Association, Natural Gas Bureau, Natural Gas Equipment, Southern California Gas Co., Pacific Coast Gas Association and Southern Counties Gas Co.

In pledging cooperation of the Pacific Coast Gas Association, Clifford Johnstone, of San Francisco, managing director, said: "The gas industry will desire to participate again in the Congress. I will do all possible to coordinate this participation, both as regards the exhibition and the technical meeting."

Oklahoma Utilities Association

The Oklahoma Utilities Association Convention was held at the Mayo Hotel in Tulsa, on March 17th and 18th.

O. A. Kinzer, Utilization Engineer of the Dallas Gas Company, discussed many ways in which new practical technical equipment could be used to increase the company load and at the same time have a better satisfied consumer.

Mr. Paul Pinson, attorney for Oklahoma Natural Gas Company, in discussing his assignment on "How to Stay out of Court" gave many simple ways in which the expense and embarrassment of the courts might be avoided.

P. McDonald Biddison, Consulting Engineer of Dallas; discussion on "Natural Gas, Electric Power and Washington" was one of the highlights of the program, explaining how various commissions and other governmental agencies with their legislation, had advanced to the point where they were now taking over duties formerly considered to be only that of the courts.

On Tuesday, March 18th, Mr. C. M. Ripley, of General Electric Company, gave many illustrations showing just how much work one kilowatt represented and the small cost for this service.

Mr. Richard Lloyd Jones, vice president and business manager of the Tulsa Tribune, gave the newspaper's viewpoint of the utility industry.

Portland, Ore. Gas Company Announces Appointments

Succeeding the late U. O. Rogers as purchasing agent for Portland (Ore.) Gas & Coke Company is H. H. Stuart, veteran chief clerk in the operating department, according to E. L. Hall, vice-president and chief engineer.

H. H. Stuart

Stuart joined the gas company organization in 1913 as a transitman and timekeeper, a position he held until named chief clerk in the operating department in 1918. M. R. Kowaleski, a 17-year veteran, has been advanced to the position vacated by Stuart.

C. E. Diamond, residential sales representative since 1935, has been advanced to the position of residential sales supervisor in charge of all salesmen in the north half of the city.

James T. Veatch, for two years agent in Albany, is now in charge of the Oregon city office. Prior to that he was agent in Newberg and office manager in Vancouver, Wash.

W. R. McKay, Portland sales representative, replaces Veatch at Albany. With the company's credit department for six years, he took up selling only two years ago.

Robert L. Rice, former Portland sales floor representative and salesman in the Hillsboro district, is now special representative in charge of the Forest Grove office.

The commercial manager's medal, awarded annually by John J. Winn, Jr., commercial manager, to the sales representative showing the greatest progress during the year, went to Leslie E. Thomson, district agent at Newberg.

The announcement was made at the company's annual sales conference in Portland. Progress in community activities as well as in sales is considered in making the award, the purpose of which is to single out the individual showing the greatest all-around progress for the year.

Other winners of the award since it was established by Mr. Winn in 1938 were C. E. Diamond the first year and Ed Meyer for 1939. Both are Portland salesmen.

Alton B. Parker Now Sales Counsellor for A.G.A.E.M.

Alton B. Parker has been appointed national sales counsellor for the Association of Gas Appliance and Equipment Manufacturers, according to an announcement by Alan P. Tappan, chairman of the Domestic Gas Range Division and vice president of Tappan Stove Co., Mansfield, Ohio.

Alton B. Parker

Mr. Parker's duties will consist in directing the CP gas range program in the field, speaking to dealer and utility salesmen and consumer groups, and aiding the department stores in the merchandising of CP gas ranges. The program is sponsored by more than 20 leading gas range manufacturers, tieing in cooperatively in sales promotion and advertising for CP gas ranges.

Formerly in charge of dealer sales development and dealer relations for the United Gas Corporation in Texas, Mr. Parker comes to the association with an extensive background in both dealer and utility merchandising.

Laclede Company Announces Executive Appointments

John J. Needham, former auditor of The Laclede Gas Light Company, has been elected secretary-treasurer of the company, succeeding E. L. White, who was recently elected vice-president. Mr. Needham joined the company as a clerk in 1905.

Martin McVey, former assistant secretary, has been appointed auditor, succeeding Needham. He joined the Laclede forces in 1904 as a messenger boy. He will retain his position as assistant secretary.

Pipe Line Extension for Southern Natural Gas Co.

A contract for construction of a 135-mile pipe line from Logansport, La., to Monroe, La., has been awarded to the B. & M. Construction Company, of Oklahoma City, C. Pratt Rather, president, Southern Natural Gas Company, announced last month.

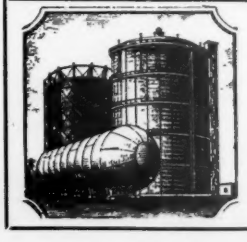
The expansion will cost approximately $2,250,000 and will add to gas reserves of the company by tapping the Logansport field. Most of the gas now sold by Southern Natural Gas Company comes from the Monroe field.

Fair Trade Code for Gas Range Manufacturers

In recognition of the changes in economic and business trends, the Fair Trade Practices Committee of the Association of Gas Appliance and Equipment Manufacturers' Domestic Gas Range Division, last year surveyed the industry and invited suggestions for any modifications to the "Statement of Business Practices for Manufacturers of Gas Ranges," to supplement the survey made several years ago.

After reviewing all the suggestions that were made, the Division approved certain amendments to the Practices and the revised code is now available to manufacturers. The Committee strongly recommended that copies of these practices be also made available to all sales personnel in the gas range industry, and for that purpose the Association can furnish manufacturers with as many copies as required.

The members of the Fair Trade Practices Committee are: Chairman, W. Frank Roberts, president, Standard Gas Equipment Corp.; W. L. Cooper, vice-president, Florence Stove Co.; C. H. Hoffstetter, president, Odin Stove Manufacturing Co.; Malcolm Leach, sales manager, Glenwood Range Co.; and C. R. Ohnimous, vice-president, Hammer Bray Co., Ltd.



STACEY BROTHERS

Gas Construction Co., Inc.

"STACEY-KLONNE" & TELESCOPIC GAS HOLDERS "STACEY BULLET" PRESSURE HOLDERS

PURIFIERS AND STEEL PLATE CONSTRUCTION

Executive Offices: Cincinnati, Ohio

Eastern Office: 21 West St., N. Y. C.

Harper-Wyman Co. Issues Colorful Sales Campaign

The importance of floor demonstrations in making sales is stressed in a new 12-issue campaign being released to gas journals this month by Harper-Wyman Company, makers of the Harper system of top burners for gas ranges. These new advertisements are two-page magazine inserts, each in four colors.

The first pages of each ad are reproductions of paintings by the well-known artist, Frank Lemon, showing the first demonstrations of great inventions. Each illustration is described in accompanying text, but the main theme of the series, "Nothing convinces like demonstration," is repeated as the headline for each advertisement.

The first picture in the series goes back to the year 1660 to show the discoverer of gas, Dr. John Clayton, demonstrating the "spirit" to a group of amazed friends assembled in his study. The interesting angle is the study of the faces of the spectators.

The second pages of the advertisements reproduce letters from leading appliance retailers testifying that demonstrations pay in the selling of gas ranges. Also featured on these pages is a new give-away booklet for salesmanagers, "How to Sell More Gas Ranges." The booklet contains a dozen tested floor demonstrations of the modern range.

The company reports intense interest on the part of retailers in the booklet. To date, hundreds of requests for it have been received. These, in the opinion of Harper-Wyman Company, bear out their own conviction that demonstrations are now becoming recognized as an essential part of the successful sales routine.

Pittsburgh Equitable Meter Company Establishes National Meter Division

President W. F. Rockwell of Pittsburgh Equitable Meter Company, Pittsburgh, Pa., has announced the purchase of the assets of the National Meter Company of Brooklyn, N. Y., thereby bringing together under one management the facilities of two of the country's oldest meter manufacturers. The National Meter plant will be operated as a division of the Pittsburgh Equitable Meter Company.

The National Meter Company was founded in 1870 by John C. Kelley, known as the father of the water meter industry. For the past seventy-one years this company has been manufacturing high class liquid meters exclusively.

In commenting on plans for the future, President Rockwell stated, "For the first time in history, manufacturers, municipalities and the utilities will be able to secure accurate meters for practically any liquid or gas from one company, which maintains offices and warehouses throughout the country and has sales and engineering contacts throughout the world."

W. F. Rockwell, Jr. to Join Research Tour of South America

Mr. W. F. Rockwell, Jr., Vice President of the Pittsburgh Equitable Meter Co., Pittsburgh, Pa., will represent his company on an "industrial exploration tour" of 6 South American countries, March 17 to April 30, under the sponsorship of the National Research Council in cooperation with the Inter-American Development Commission in Washington. He will be a member of a party of 28 key industrial, banking and research executives which will tour Colombia, Peru, Chile, Argentina, Uruguay and Brazil, and will submit a report on industrialization possibilities to the Department of Commerce, the Inter-American Development Commission, and other interested government departments and agencies on its return. The trip will be made entirely by air in a chartered plane of Pan American Airways.

In charge of the tour will be Mr. Maurice Holland, Director of the National Research Council's division of engineering and industrial research. "South America is the richest storehouse of industrial materials, including minerals, metals, oils, rare hardwoods, industrial diamonds and other products in the entire world," Mr. Holland said in commenting on the projected group tour. "However, these materials aren't worth much unless the technical skill necessary to use them is present. We intend to make a study of the potentialities, as well as the limitations, of the countries and to offer whatever technical help we can to help the nations develop industrially.

"Our major objective is to work out practical methods for the exchange of American industrial technology for non-competitive industrial raw materials produced by Latin American countries."

Short Wave Radio in Indiana

Governor Henry F. Schricker of Indiana has signed a bill which permits use of short wave radios, capable of receiving police broadcasts, by any service, maintenance or construction truck, or emergency or other vehicle operated by a public utility company, or by any street car, trackless trolley or motor bus operated within a city. Backers of the measure contended that with the large fleet of trucks operated by all utilities their drivers could be of invaluable aid to police if they knew what was going on. Heretofore the use of such radio sets has been banned on all cars and trucks.

Dresser Issues Brochure on Products and Affiliates

With the comprehensive title of "Gas, Oil and Water for Millions of Moderns," Dresser Manufacturing Co. of Bradford, Pa., gives a fine illustrated summary of its organization, history, products and markets in a 26 page bulletin.

The national service rendered by the parent company and its associates, Bryant Heater Co., Clark Bros. Co., and Pacific Pump Works are set forth in an interesting way as covering these three major industries.

Copies are available by addressing The Dresser Mfg. Co., at Bradford, Pa.

The Reliable Shut-Off for Street Mains

THE GOODMAN STOPPER

Now has the "Z" handle for easy manipulation. When locked in place it holds. Stopper cannot slip. Gas cannot pass. Adjusted in 30 seconds.

Ask for circulars on this and other distribution equipment.

Nearly a half century of service to the Gas Industry.

Safety Gas Main Stopper Co.
523 Atlantic Avenue, Brooklyn, New York

INDUSTRIAL GAS BOILERS
GARMENT PRESS BOILERS
100 lbs. ASME Code
¾ to 45 H.P.

P. M. LATTNER MFG. CO.
MAIN OFFICE
CEDAR RAPIDS, IOWA

Seattle Gas Company Board Elects Horning and Steere

To improve service for household and commercial customers and meet increased needs created by Seattle's rapid expansion and by new defense industry requirements, James F. Pollard, president of the Seattle Gas Company today announced the creation of two operating vice-presidencies. The posts were filled at the March meeting of the company's board of directors.

George R. Horning

By the appointments, made to strengthen the company's technical staff, general superintendent George R. Horning is promoted to the position of vice-president in charge of engineering and distribution and George R. Steere, widely known research expert, gas industry engineer and production man, becomes vice-president in charge of production. Steere comes from Portland, Maine, where for the past three years he has been assistant general manager of the Portland Gas Light Company in charge of production.

Horning's promotion, Pollard said, "is well-deserved recognition of his achievements in steering the company through the difficult engineering and operating problems created by the change-over of the Seattle plant from the production of coke oven gas to the more modern oil gas process." Horning was general superintendent of the company for seven years.

In his capacity with the Portland company, Steere has had complete charge of the design, purchase and installation of new water gas generating equipment of the most modern type to replace outmoded coal gas equipment, Pollard said. His Portland position was preceded by more than twenty years engineering, research, experimental field work, and industrial management positions for some of the largest gas industry and engineering firms of the country.

In making the announcement of Steere's and Horning's appointments, Pollard pointed out that the growth of the gas business in Seattle and new production activities created by the company's new oil gas plant and attendant by-product

George R. Steere *Photo Grady*

business demand additional executive man power with the experience Steere will bring to the organization.

In the experimental field, Steere has developed and patented many automatic charging devices, control valves and other improvements to water gas plant apparatus. He worked with George Whitwell, former University of Washington professor, and Dan Young of Tacoma, in the development of the back run process for water gas plants which was later widely, if not universally, adopted by the gas industry.

In 1938, when Steere left the Semet-Solvay Corporation to take charge of rebuilding the Portland (Me.) Gas Light Company's production plant, he was head of Semet-Solvay's New England, North Eastern, New York and Eastern Canada territories.

After going to Portland, he changed over a coal gas plant to an ultra modern water gas plant with heavy oil carburetion, put in an automatic pressure booster station, automatic holder heating system, purification plant and coal handling system at a total cost of more than $400,000. The change-over produced operating economies which are rapidly repaying the cost of installation, Pollard said. (This plant was fully described in AMERICAN GAS JOURNAL, October 1939, pg. 21.—Ed.)

Steere will assume his new position with the Seattle Company about April 15.

Weymouth Retires

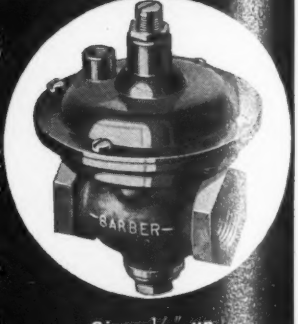
Thomas R. Weymouth, vice-president of the Columbia Gas & Electric Corporation and an outstanding figure in the natural gas industry for many years, retired from active service on April 1st. Mr. Weymouth has been a leader of organized research activities in the gas industry and has made many contributions of vital importance to the industry's progress.

He was a member of the Natural Gas Association of America since 1911, and, since its merger, a member of the American Gas Association, serving as chairman of the Natural Gas Section in 1938-1939. As a member of the Main Technical and Research Committee and chairman of the Subcommittee on Gas Measurement, he has made valuable contributions to this group's research program.

He conducted experimental work to determine the deviations from Boyle's Law, and carried on research on the extraction of gasoline from natural gas, cooperating with Col. George A. Burrell in the development of the process for extraction of gasoline by means of activated charcoal.

Mr. Weymouth also has done research work on the underground storage of natural gas; in fact worked on some of the earliest experiments.

CRUSE-KEMPER COMPANY
STEEL PLATE CONSTRUCTION
AMBLER, PA.
GAS HOLDERS
HOLDER INSPECTION
RIVETED OR WELDED FABRICATION & ERECTION
TANKS, BINS, FLUES PURIFIERS, WELDINGS

• BARBER
Gas Pressure REGULATORS
for Reliability!
Certified by A. G. A. Testing Laboratory. Write for Catalog and prices on Barber Conversion Burners, Appliance Burners, and Regulators.


THE BARBER GAS BURNER CO.
3702-4 Superior Avenue
CLEVELAND OHIO
Sizes 1/4" up

INDEX TO ADVERTISERS

American Meter Co. 8
Autogas Corporation 34
Barber Gas Burner Co., The 50
Besse, Osborn & Odell 24
Blaw-Knox Company 5
Carbide & Carbon Chemicals Corp. 25
Cast Iron Pipe Research Assn., The 2
Chaplin-Fulton Mfg. Co., The 34
Cleveland Gas Meter Co. ..... —
Cleveland Trencher Co. 38
Coal Carbonizing Co. 38
Connelly Iron Sponge & Governor Co. ..... —
Cribben & Sexton Co. 6
Cruse-Kemper Co. 50
Dresser Mfg. Co. ..... —
Gas Machinery Co. ..... —
Gas Purifying Materials Co. 42
General Coal Co. ..... —
Harper-Wyman Co. 19-20
Heath Tree Service, Inc. 41
Lambert Meter Co., Inc. 34
Lattner Mfg. Co., P. M. 49
Lavino & Co., E. J. 41
Merco-Norstrom Valve Co. ..... Front Cover
Metric Metal Works 8
Monmouth Products Co. 28
Paramount Products Co. 41
Partlow Corp., The ..... —
Phillips, Alfred I. ..... —
Pittsburgh Coal Co. ..... —
Pittsburgh Equitable Meter Co. ..... Front Cover
Reed Manufacturing Co. 40
Remington Rand Co. ..... —
Republic Heaters Sales Co. 34
Reynolds Gas Regulator Co. 28
Roberts-Gordon Appliance Corp. ..... —
Robertshaw Thermostat Co. ..... —
Roper Corp., Geo. D. ..... —
Ruud Manufacturing Co. ..... —
Safety Gas Main Stopper Co. 49
Semet-Solvay Engineering Corp. 3
Servel Electrolux Div. ..... —
Skinner Co., M. B. ..... —
Sprague Meter Co., The ..... Fourth Cover
Stacey Bros. Gas Construction Co. 48
Superior Meter Company 38
Titan Valve & Mfg. Co., The ..... —
Union Carbide & Carbon Corp. 25
United Engineers & Constructors, Inc. 4
Vulcan Proofing Co. ..... —
West Gas Improvement Co. ..... —
Worthington Pump and Machinery Corp. ..... —

Position Open

Wanted—A good appliance salesman to sell gas ranges, storage water heaters and gas refrigerators. Apply by letter to Mr. S. R. DeFrese, The North Carolina Gas Corp., Reidsville, N. C., giving age, experience, references and other details.

For Sale

Water Gas Equipment for Sale—Due to a proposed conversion of system from water gas to butane gas, we will have available for sale complete five foot water gas works equipment in good condition. List of equipment will be sent on request. The North Carolina Gas Corp., Reidsville, N. C.

Headliners Picked For Annual A.G.A. Hotel, Restaurant & Commercial Sales Conference

The 1941 A.G.A. Hotel, Restaurant and Commercial Sales Conference, is scheduled for the Palmer House, Chicago, Thursday and Friday, April 24-25.

Already enough headliners are signed up to demonstrate the value the program will deliver to the executives, sales managers, commercial gas salesmen, and appliance manufacturers who wil lattend. Paul Moore, President of the John R. Thompson Co. (Thompson's national restaurant chain), will be on hand to delineate trends in "Modern Food Service" from the restaurateur's point of view. F. X. Mettenet, Vice President in Charge of Sales for The Peoples Gas Light and Coke Company, will handle "Views on Hotel, Restaurant and Commercial Gas Sales" from the utility management side.

Successful case histories in load-building will be described by **E. V. Fineran**, Washington Gas Light Company, under the title, "The Campaigns of Washington—Cooperative Load Builders"; by R. D. Maxson, Public Service Co. of Northern Illinois, on "Building Gas Load Through New Outlets"; and by J. B. Druse, Milwaukee Gas Light Company, who will interpret "Business Opportunities in the Corner Bakery." These are only a few of the many important subjects to be discussed.

Presiding over the sessions will be H. Carl Wolf, President, Atlanta Gas Light Company, George F. B. Owens, Assistant Vice President, The Brooklyn Union Gas Company, and T. J. Gallagher, Manager of Commercial Gas Sales, The Peoples Gas Light and Coke Company.

Schroeder Promoted

Promotion of Fred R. Schroeder of Shreveport to the position of superintendent of the Geological department has been announced by officials of Union Producing Company, an associated company of United Gas Pipe Line Company.

Mr. Schroeder, a graduate of the University of Illinois, first started working for Union in 1930 as a geological scout. He worked in this capacity in the East Texas field during its boom years, 1930 through 1934, coming to Shreveport at the end of that time. In 1937 he was transferred to the general offices in Houston, returning to Shreveport in February, 1940, when the general office of United Gas Pipe Line and its associated companies were moved here.

Gas Pipe Line Activities

The 117 mile pipe line, constructed by the Manufacturer's Gas Co., the Manufacturer's Light and Heat Co., and the Pennsylvania Fuel Supply Co., all subsidiaries of Columbia Gas & Electric Co., of New York, has been completed. The line will carry 2,500,000,000 cu. ft. of natural gas annually to consumers, and was built at a cost of $1,800,000.

The line will transport gas from West Virginia to supplement diminishing supplies in New York state. Williams Bros. Corp., of Tulsa, Okla., had the contract for the construction of the line and Pritchard & Co., Kansas City, Mo., for construction of two 1,000 h.p. compressor stations.

Lone Star Brings Gas Service to Warplane Factory

Lone Star Gas Company has been awarded a contract to furnish natural gas for all fuel requirements at the $7,000,000 warplane factory now under construction east of Grand Prairie by North American Aviation, Inc. The Company has constructed a 2,500-foot tie-in line to run north from the factory site, fronting on Jefferson Avenue, to Lone Star's 8-inch field line from Dallas to Fort Worth.

Tennessee Products Corporation to Double Coke Capacity

A contract for expansion of its coke and by-product plant at Chattanooga has been awarded by the Tennessee Products Corporation to the Wilputte Coke Oven Corporation. Wilputte is a subsidiary of Semet-Solvay Company, a division of Allied Chemical & Dye Corporation.

The contract provides for the construction of 19 Wilputte Underjet By-Product Coke Ovens of the latest type, together with necessary expansion of the associated by-product and benzol plants. The new ovens will have a yearly capacity of 130,000 tons of coke and will enable the Tennessee Products Corporation to supply additional coke to the Alcoa (Tenn.) plant of the Aluminum Corporation of America, an important national defense industry.

Appalachian Gas Measurement Short Course

Mr. A. F. Kraus, Chairman for the Fourth Annuad Appalachian Gas Measurement Short Course called a meeting of the General Committee in Morgantown, West Virginia on February 7th, for the purpose of making plans and appointing committee members for this year's meeting. It was decided that sessions would be held on the West Virginia campus August 18, 19 and 20, 1941.

R. O. Borden as chairman of the Rules Committee presented a revised organization plan for the school which was approved and adopted. Under new by-laws, an Executive Committee was created to conduct the affairs of the school during the vacation of the general committee and to appoint the membership of the general committee.

The Executive Committee selected is as follows—*Three Year Term:* G. R. Spindler, West Virginia University, Chairman, A. F. Kraus, Peoples Natural Gas Company and R. W. Hitchman, United Fuel Gas Company. *Two Year Term:* Stacy Jones, South Penn Natural Gas Company, J. E. Overbeck, Columbian Engineering Corporation and Lawrence Hunter, Columbian Carbon Company. *One Year Term:* G. W. Harr, Monongahela West Penn Public Service Company, Joseph M. Low, Hope Natural Gas Company, and T. K. Spalding, Owens-Libbey-Owens Company.

Sub-committees were also appointed to formulate plans and administer the affairs of the 1941 school. These include: *Program Committee,* J. E. Overbeck, Columbian Engineering Corporation, Chairman; *Housing and Registration,* W. A. Staab, West Virginia University, Chairman; *Banquet and Entertainment,* A. D. MacLean, Pittsburgh Equitable Meter Company, Chairman; *Exhibits,* J. W. Allison, Monongahela West Penn Public Service Compaany, Chairman; *Publications and Merit Awards,* G. R. Spindler, West Virginia University, Chairman; *Publicity,* R. S. Reed, Jr., Pittsburgh Equitable Meter Company, Chairman; *Educational,* H. J. Wagner, West Virginia Public Service Commission, Chairman; *Practical Methods,* C. B. Heist, Manufacturers Light and Heat Company, Chairman.

Obituary

THOMAS RATH

Thomas Rath, former advertising manager of American Stove Company, died on February 13, at Lorain, Ohio. A pioneer in national advertising of gas ranges, Mr. Rath retired on January 1, 1938, after 57 continuous years in the gas range industry.

Born 74 years ago, November 3, 1866, in Cleveland, Ohio, Mr. Rath left school at the age of 14 to help his parents support his younger brothers and sisters. His first job, at $2.50 a week, was for the

Thomas Rath

Hull Vapor Stove Company. As office boy, it was his daily job to carry mail across the Public Square, often in a wheelbarrow, to the Post Office.

Noting his fine penmanship, his employers urged him to study bookkeeping, and after two years of night school, he became bookkeeper for the company, which in 1893 was reorganized as National Vapor Stove Company and moved to Lorain, Ohio, with Mr. Rath as office manager. In 1902, the company became a part of American Stove Company and in 1906 Mr. Rath was made National Stove Division manager.

In 1914 Mr. Rath had the distinction of introducing to America the "Greatest single advancement in the stove industry, automatic regulation of oven temperatures," the Lorain Oven Heat Regulator.

Realizing that national advertising would be the best and quickest means to bring this new invention to the public, Mr. Rath persuaded the board of directors to set aside a fund for that purpose. The first ad appeared in the May, 1919, issue of Good Housekeeping.

Mr. Rath was placed in charge of the company's advertising program and for a time also continued to manage the Lorain plant. As the scope of the advertising expanded, Mr. Rath gave up managership of the factory in 1929, at the time of the introduction of the Magic Chef Gas Range, a unified product of the company's various divisions. Ill health enforced his retirement in 1938 when he was succeeded by Charles F. Farnham as advertising manager.

HENRY S. BATTIN

Henry S. Battin, who had been an executive with The United Gas Improvement Company for many years, died on Friday, March 14, in a hospital in Miami, Florida. He had been retired from U.G.I. employ since March 1, 1929, and would have been 81 years of age on April 6.

At the time of his retirement, he was executive assistant to the general superintendent of U.G.I., having started with that company in 1898.

Mr. Battin came from a family that had been identified continuously with the gas industry since 1844. His grandfather, Joseph Battin, built the Albany (New York) Gas Works during that year, being at the time one of the few builders of gas works in the United States. Joseph Battin also built the gas works at Syracuse, N. Y., Charleston, S. C., Patterson, N. J., Elizabeth, N. J., and Scranton, Pa.

Mr. Battin's father was superintendent of the Scranton Gas and Water Company for a number of years, and Mr. Battin's first work in the gas business was with that company. From there, he went to Chicago in 1883, where at that time they had one of the largest carburetted water gas plants in the country. He came with U.G.I. directly from Chicago in 1898.

FRANCIS J. BRETT

Francis J. Brett, vice president and controller of Niagara Hudson Power Corporation, died of a heart attack March 23d at his home, New Rochelle, N. Y. He was 49 years old.

He had been associated with the Niagara Hudson System and its predecessor companies for the past thirty-three years, starting as an office boy at the age of 16 with the Niagara Falls Power Company. Mr. Brett was later payroll clerk, bookkeeper and accountant and in 1917 became general auditor of the Tonawanda Power Company until he became chief accountant of Niagara Falls Power Company in 1919. He was assistant treasurer of the power company from 1921-1925 and after the formation of Buffalo, Niagara and Eastern Power Corporation, he was elected an assistant treasurer and in 1927 was elected treasurer.

Shortly after the formation of Niagara Hudson Power Corporation in 1929, Mr. Brett became its assistant treasurer, advancing to controller in 1930 and to vice president and controller in 1936. In February, 1940 he was elected to the Board of Directors.

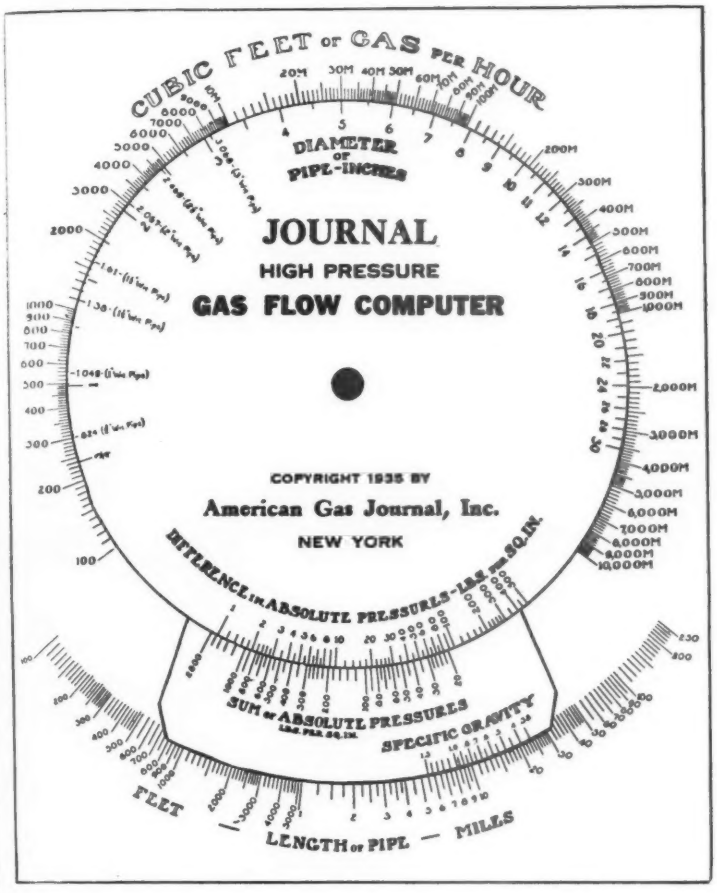
GEORGE W. RATCLIFFE

George W. Ratcliffe, retired president of the Manufacturers Light and Heat Company of Piatsburgh, Pa., and a leader in the natural gas industry for 38 years, died at West Palm Beach, Florida, on March 20th.

He has been active in the affairs of various gas and oil associations, and in 1932-33 was chairman of the Natural Gas Department of the American Gas Association.

HUGHES PRINTING CO.
EAST STROUDSBURG, PA.

"Journal" Gas Flow Computers



New Improved Gas Flow Computers now available of durable celluloid, encased in a convenient leatherette cover with complete instructions.

Actual Size 6¼ x 7½

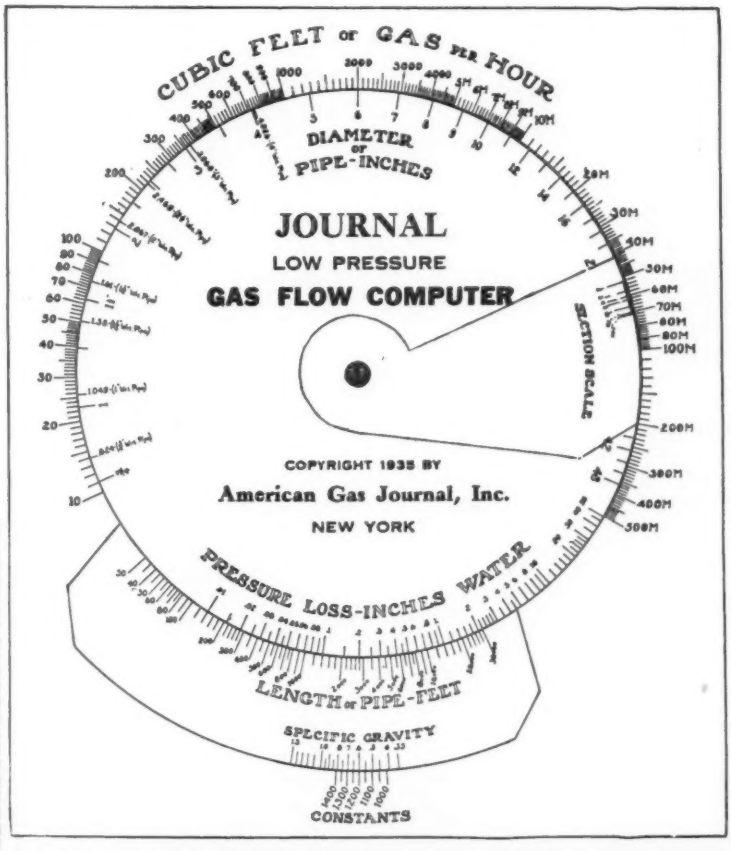
High Pressure Computer Range:

Cu. Ft. of Gas Per Hour—100-10,000 M
Diameter of Pipe Inches ¾-30
Difference in Absolute Pressure—Lbs. per sq. in. 1-500
Sum of Absolute Pressures—Lbs. per sq. in 2000-20
Specific Gravity 1.5-.35
Length of Pipe—Feet 100-5000
Length of Pipe—Miles 1-250

Low Pressure Computer Range:

Cu. Ft. of Gas Per Hour—10 to 500 M
Pipe Diameter ¾" to 48" (including standard and actual weight up to 4")
Pressure Loss Inches .01-10.
Length of Pipe—Feet 30-30,000
Specific Gravity 1.5-.35
Constants 1400-1000

Price $3.50 Each, Postage Prepaid



AMERICAN GAS JOURNAL
53 Park Place, New York

Please enter our order for Computers as follows at $3.50 each, postage prepaid

....HIGH Pressure Computer

....LOW Pressure Computer

NAME .....

ADDRESS .....

SPRAGUE

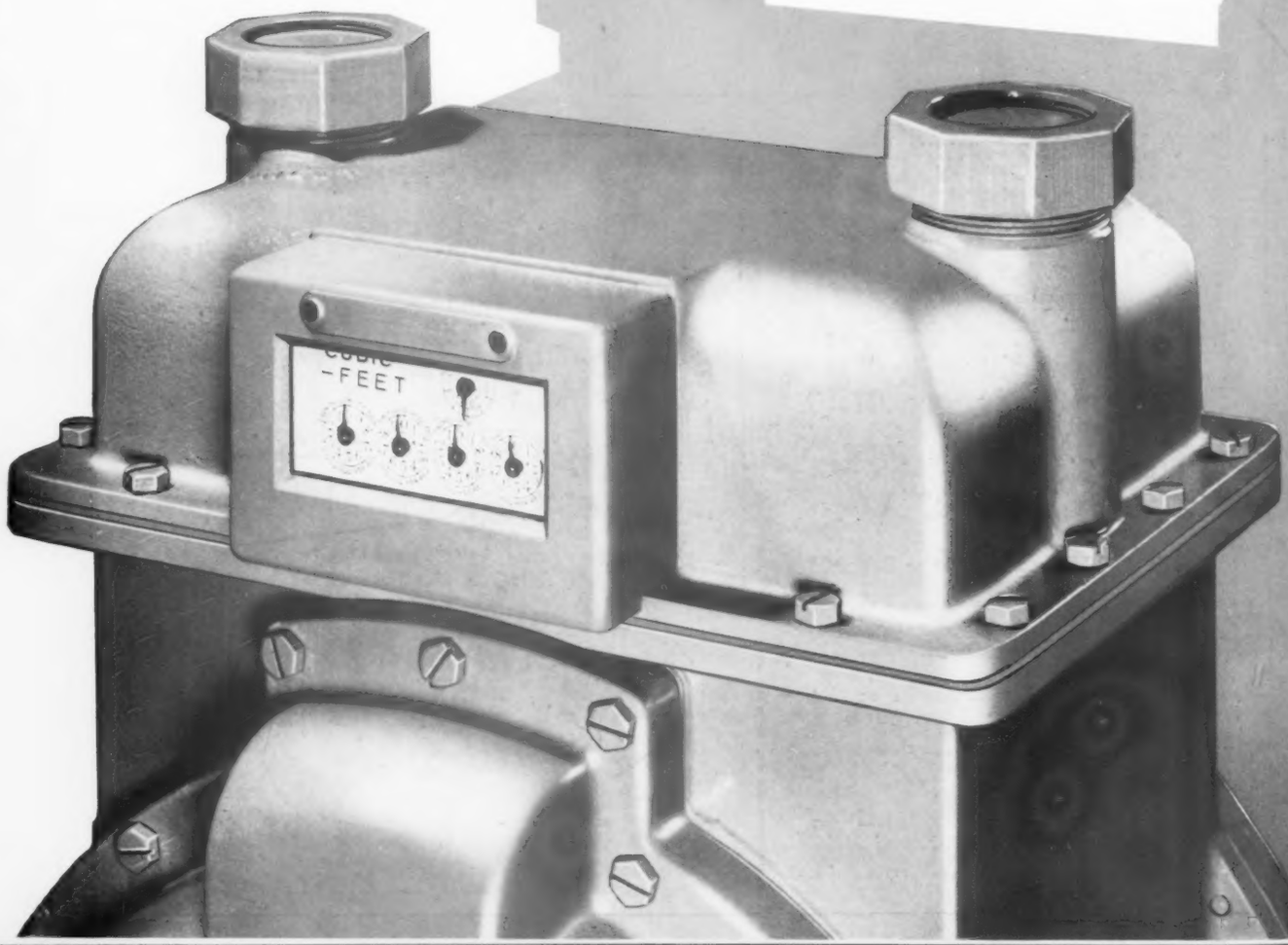
● Forward and on to better equipment — now more than ever, discriminating engineers are recognizing the real value of Sprague's Policy of simplified mechanism and precision construction which insures unequalled accuracy in measurement.

MARCHES FORWARD

SPRAGUE METER No. 4

designed for small industrial installation offers greater capacity in a more compact unit. Rugged in construction, made of cast iron, makes for rigid strength, and simplified mechanism permits a small meter with greatest efficiency. Capacity 600 cu. ft. at ½" W.C.

For complete information write today for catalogue No. 22



THE SPRAGUE METER CO. BRIDGEPORT, CONN.

DAVENPORT, IOWA • LOS ANGELES, CALIF. • HOUSTON, TEXAS • SAN FRANCISCO, CALIF.